

**THE NEW NORMAL? AN EXAMINATION OF THE PORTRAYAL OF
ALCOHOL USE ON TV PROGRAMS POPULAR AMONG YOUTH, 2002-2012**

By

Samantha Cukier, MBA, MA

A dissertation submitted to Johns Hopkins University in conformity with the
requirements for the degree of Doctor of Philosophy

Baltimore, Maryland

August 2015

Abstract

Background: Alcohol use continues to cause serious harm among youth in the U.S.

Exposure to alcohol in the media is one of the vectors associated with alcohol use initiation and increased use. During a time when young people in the U.S. spend the large majority of their media-use time with TV content, it is critical to understand the alcohol-use messages to which they are exposed. Furthermore, it is important to explore how they may be influenced by these messages and how the messages may be changing over time. It has been almost 30 years since a study has looked at patterns of alcohol use on TV over a 10-year period.

Objectives: The objectives of this research are to: (1) develop a methodology to capture 10 years of alcohol-use portrayals on TV programs most popular among youth; (2) document the alcohol portrayals on TV programs most popular among youth between 2002 and 2012; (3) explore the theoretical underpinnings of the relationship between exposure to TV portrayals of alcohol use and behavior change within an environment of normalized alcohol use.

Methods: We used Nielsen data to identify the top five most viewed TV programs by 12-20 year-olds in the U.S. for each year between 2002 and 2012. Through an iterative process, we created a pilot coding scheme to capture elements of drinking behavior and the drinking environment by character, in a random sample of 50 TV episodes, five from each year. For our next study we modified our coding scheme to include coding by scene as well as by character, and increased our sample size to 15 episodes per year for a total

of 150 episodes. We used Social Cognitive Theory and Transportation Theory to connect viewer exposure to alcohol use on TV with potential modeling of this behavior in real life.

Results: We were able to capture all alcohol-related content on TV programs popular among youth between 2002 and 2012, both by character and by scene. The majority of episodes ($n = 125$, 83%) contained at least one reference to alcohol. There was a significant increase in all three major measures of the frequency of alcohol on TV: the total number of references to alcohol per hour ($\beta = 3.45$, 95% CIs [0.625, 6.28]); the number of alcohol appearances (verbal and visual) per hour ($\beta = 0.824$, 95% CIs [0.115, 1.53]), and the number of alcohol acts per hour ($\beta = 2.62$, 95% CIs [0.339, 4.92]). As another measure of the normalization of alcohol use, we found that the top reasons characters consumed alcohol were to be sociable, for celebration or for no reason except to keep occupied.

Conclusions: TV programs popular among youth present alcohol use as a normal, everyday activity. As viewers are transported into the storylines of TV programs, and seek out “super peers” on TV as role models, high rates of consumption by these characters have great potential to influence viewer drinking behavior. Patterns of drinking based on the modeling of this normalized use may prove harmful to developing brains and bodies. Researchers and public health professionals should pursue opportunities to work with the creative community to reduce or eliminate unnecessary portrayals of

alcohol use on TV. As has been done in the past, more realistic portrayals of alcohol use may help reduce the risks current modeling poses for youth.

Committee of Final Thesis Readers

David Jernigan (Advisor)
Associate Professor
Department of Health, Behavior & Society
Director, Center on Alcohol Marketing and Youth
Johns Hopkins Bloomberg School of Public Health

George W. Rebok (Chair)
Professor
Department of Mental Health
Johns Hopkins Bloomberg School of Public Health

Jon S. Vernick
Professor & Associate Chair
Department of Health Policy & Management
Co-Director, Johns Hopkins Center for Gun Policy and Research
Deputy Director, Johns Hopkins Center for Injury Research and Policy
Johns Hopkins Bloomberg School of Public Health

Katherine C. Smith
Associate Professor
Department of Health, Behavior & Society
Co-Director, MHS Social Factors in Health
Director, Center for Qualitative Studies in Health and Medicine
Johns Hopkins Bloomberg School of Public Health

Alternate Committee Members:

Meghan B. Moran
Assistant Professor
Department of Health, Behavior & Society
Johns Hopkins Bloomberg School of Public Health

Kristin Mmari
Assistant Professor
Department of Population, Family and Reproductive Health
Johns Hopkins Bloomberg School of Public Health

Acknowledgements

I would like to thank my advisor, Dr. David Jernigan, for his research guidance, lessons in writing and literature, and unfettered access to his seemingly limitless wealth of knowledge. Thank you for making my transition to Baltimore so seamless. I am also thankful for all the invaluable opportunities to conduct research in the field and the access to experts throughout my time with CAMY. In addition, I would like to thank my dissertation advisory committee, including: Drs. Kate Smith and Doug Storey, for their guidance in my evolving research pursuits, and my dissertation committee, who provided insightful feedback through the final stages of this process: Drs. George Rebok, Kate Smith and Jon Vernick.

My sincere thanks to Josh Ostroff (formerly of VMR) and Craig Ross (Fiorente Media) for the provision of data and the thorough explanations of said data. I am indebted to you both for all your time and expertise.

Thank you to Barbara Diehl for always answering my questions, and making sure I stayed administratively sound. I am also thankful for the tuition support from the Department of Health, Behavior & Society at JHSPH.

These years of rigorous study would not have been as manageable without the constant sharing and support of our dear cohort members, who guided me through cultural change in my very first month in the U.S. Dinner club was a saving grace.

I am forever grateful for the love and support of my family, without whom I would not be here today. Thank you to my husband who was the first to hear of my idea to pursue a PhD, and who supported me along this journey. Thank you to my brother, to whom I will be forever indebted. Thank you to my parents who set the bar high, from the

start, who continue to provide formidable examples of hard work, dedication and perseverance.

I dedicate this enormous piece of work to my beautiful baby daughter, who brings me joy and happiness every single day – may you too reap the fruits of your labor.

Table of Contents

Abstract.....	ii
Committee of Final Thesis Readers	v
Acknowledgements.....	vi
Table of Contents.....	viii
List of Tables	ix
List of Figures	x
Chapter 1: Introduction	1
Background.....	4
The burden of alcohol use among youth.....	4
Influences on alcohol use in adolescence	8
The influence of alcohol marketing.....	10
Alcohol use portrayals in movies and on TV	12
Theoretical Foundations	16
Adolescence and risk	16
Social Cognitive Theory	18
Cultivation Perspective.....	21
Transportation Theory	23
Normalization	24
Conclusions.....	27
Chapter 2: Methodological Considerations.....	49
Chapter 3: Content analysis of alcohol portrayals on popular TV shows among youth, 2002-2012: a pilot study.....	67
Chapter 4: Revisiting alcohol on primetime: content analysis of TV programs popular among youth, 2002 to 2012	97
Chapter 5: Normative messaging in alcohol use constructs on TV: content analysis of TV programs popular among youth, 2002-2012	127
Chapter 6: Integrative Summary	158
Public health implications.....	162
Future studies.....	163
Limitations and strengths.....	166
Conclusions.....	168
Appendices.....	178
Appendix A: Codebooks for Studies 1, 2 and 3	178
Appendix B: Curriculum Vitae.....	181

List of Tables

Table 3.1	Coding categories for alcohol acts	93
Table 3.2	Most viewed scripted entertainment TV shows among 12-20 year olds on network TV in order of number of viewers by year	94
Table 4.1	Gilbert-Kahl Model of the Class Structure	123
Table 4.2	Characters who performed at least one drinking act between 2002-2003 and 2011-2012	124

List of Figures

Figure 1.1 Conceptual Model: Extended Social Cognitive Theory	48
Figure 3.1 Total number of alcoholic beverages consumed by main characters each year	95
Figure 3.2 Proportion of drinks consumed by females each year	95
Figure 3.3 Proportion of characters drinking who are female	96
Figure 4.1 Total number of alcohol acts per hour by TV season	125
Figure 4.2 Total number of alcohol acts per hour by yearly sweeps seasons	125
Figure 4.3 Foreground alcohol acts per hour by gender	126

Chapter 1: Introduction

Each year over 4,300 young people in the U.S. under the age of 21 die from excessive use of alcohol (Centers for Disease Control and Prevention, 2015). Youth who drink alcohol before the age of 15 are four times more likely to become dependent on alcohol than those who delay their first use (Grant & Dawson, 1997). Young people who drink alcohol are also more likely to do poorly in school, engage in risky sexual behaviors, attempt suicide (Miller, Naimi, Brewer, & Jones, 2007), get into a car with a drinking driver, drive after drinking (Hingson, Edwards, Heeren, & Rosenbloom, 2009), or injure oneself or others after drinking (Hingson & Zha, 2009). In order to reduce the harms related to alcohol use among the young, including the impressionable and the risk-takers, it is critical to investigate the potential influences of use.

While personality traits or temperament can play a role in a young person's decision to drink (Buss & Plomin, 1975; Caspi, 1998), other factors within an individual's environment are key. Interpersonal factors that influence drinking practices include family practices (Nelson, Naimi, Brewer, & Nelson, 2009) and peer influences (Mason & Windle, 2001; Wood, Read, Mitchell, & Brand, 2004). One step further is the influence of community-level factors on alcohol consumption, which includes marketing messages in the media (Anderson, de Bruijn, Angus, Gordon, & Hastings, 2009; Grenard, Dent, & Stacy, 2013; Smith & Foxcroft, 2009). At the broadest level of influence, the policies that govern the production and distribution of alcohol in society will impact drinking practices by region (Stockwell & Gruenwald, 2004; Xuan et al., 2015). In my dissertation, I sought to explore influences of alcohol use at the community level: the

alcohol-related messages in the media, in particular, the alcohol use portrayals on television (TV) narratives.

Longitudinal and cross-sectional studies have identified an association between exposure to alcohol marketing and subsequent drinking (Anderson et al., 2009; Bryden, Roberts, McKee, & Petticrew, 2012; Chen, Grube, Bersamin, Waiters, & Keefe, 2005; Grube & Waiters, 2005; Grube & Wallack, 1994; Jones & Magee, 2011; Martin et al., 2002; McClure, Stoolmiller, Tanski, Engels, & Sargent, 2013; Smith & Foxcroft, 2009; Winpenny, Marteau, & Nolte, 2014). However, the literature is much less robust when looking at the association between exposure to alcohol portrayals embedded in narratives, for example TV programs, and associated drinking behaviors (Koordeman, Anschutz, & Engels, 2012; Koordeman, Kuntsche, Anschutz, van Baaren, & Engels, 2011; Kotch, Coulter, & Lipsitz, 1986; Russell, Russell, & Grube, 2009). Furthermore, consistent and long-term monitoring of alcohol use on TV programs is non-existent. While researchers are currently unaware of the exact mechanisms through which exposure leads to behavior change, a number of theories exist. Drawing on the main tenets of Cultivation Theory (Gerbner, Gross, Morgan, Signorelli, & Shanahan, 2002), Social Cognitive Theory (Bandura, 1986), and Transportation Theory (Green & Brock, 2000), I will argue that exposure to alcohol-use portrayals on TV present mechanisms of an even stronger behavioral impact than alcohol advertisements, even though the TV portrayals are not overtly trying to influence behavior. The purpose of my dissertation is therefore to explore ways in which alcohol use on TV can be monitored and consider the theoretical mechanisms through which exposure to these portrayals may influence drinking behavior. The objectives of my dissertation are to:

- 1- Develop a methodology to capture 10 years of alcohol-use portrayals on TV programs most popular among youth;
- 2- Document the alcohol portrayals on TV programs most popular among youth between 2002 and 2012;
- 3- Explore the theoretical underpinnings of the relationship between exposure to TV portrayals of alcohol use and behavior change within an environment of normalized alcohol use.

In this first chapter I present background research on the burden of alcohol use on young people and then delve into the influence of alcohol marketing on drinking behavior. I describe studies focusing on the influence of alcohol advertisements and alcohol portrayals on TV and in movies on alcohol use, and present information on why it is critical to consider these influences during adolescence. I then describe leading theories that present possible mechanisms through which exposure to alcohol use on TV may influence drinking behavior.

In Chapter 2, I discuss methodological considerations. In Chapter 3, I present the initial methodology and results of the TV content analysis pilot project testing the sampling strategy, codebook creation and coding of TV programs most popular among youth between 2002 and 2012. In Chapter 4, I discuss changes in alcohol-use portrayals on TV programs between 2002 and 2012 after a change in methodology from the pilot study: a larger sample size of TV programs and a revised content analysis codebook based on stronger theoretical foundations. In Chapter 5, I explore theories that connect exposure to alcohol-use portrayals on TV with drinking behavior by TV viewers, and consider the indicators of the normalization of alcohol use over 10 years of TV

programming. In Chapter 6, I bring together all my findings and suggest public health implications of this research, point out its limitations and strengths, and conclude with final remarks.

Background

The burden of alcohol use among youth

Alcohol continues to be the drug used most among young people in the United States (Johnston, O'Malley, Miech, Bachman, & Schulenberg, 2015). Although prevalence of use has recently declined (as described in more detail in the next section), 66% of youth reported having consumed alcohol by the end of high school (Johnston et al., 2015).

Approximately 8.7 million young people in the U.S. aged 12-20 (22.7% of youth) reported having consumed alcohol in the last 30 days, with no significant difference in the rates of current drinking between males (23%) and females (22.5%) (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014). In 2014, 11% of 8th graders and 50% of 12th graders reported ever having been drunk (Johnston, O'Malley, Bachman, & Schulenberg, 2011). Of particular concern among young people is the pattern in which alcohol is consumed, i.e., the number of drinks consumed in one sitting. Episodic heavy or binge drinking is defined as having five or more drinks on the same occasion in the last 30 days (SAMHSA, 2014). Approximately 5.4 million youth in the U.S. aged 12-20 (14.2%) reported binge drinking in the last 30 days. Males were more likely to have reported binge drinking than females (15.8% vs. 12.4%) (SAMHSA, 2014). Approximately 1.4 million youth (3.7%) reported heavy drinking, defined as binge

drinking on at least 5 days in the last 30 days. Again, males were more likely than females to have reported heavy drinking (4.6% vs. 2.7%) (SAMHSA, 2014).

Patrick et al. (2013) looked specifically at prevalence rates of “extreme binge drinking” (10+ or 15+ drinks in a row) in the U.S. among 12th graders. Reporting on these thresholds began in the Monitoring the Future Survey (Johnston et al., 2015) in 2005. Compared to rates of binge drinking and its consequences, prevalence rates and consequences of extreme binge drinking are uncommon in the literature. In 2011, 20.2% of 12th graders reported having consumed 5+ drinks at least once in the previous 2 weeks, 10.5% reported 10+ drinks and 5.6% reported 15+ drinks. Unlike rates of binge drinking, rates of extreme binge drinking have not declined significantly since the question first appeared on the survey in 2005 (Patrick et al., 2013).

Early alcohol use is often predictive of alcohol problems later in life, for example, alcohol dependence (Dawson, Goldstein, Chou, Ruan, & Grant, 2008; Grant & Dawson, 1997). DeWit et al. (2000) reported that among those who first used alcohol at 11-12 years, 15.9% were later diagnosed with alcohol dependence. Among those whose reported first use at 13 years old, 13.7% were later diagnosed with dependence. Rates of diagnoses of dependence continue to decrease as age of initiation increases. Among those whose first use was at 19 years or older, only 1% were later diagnosed with dependence. The authors found that initiation of alcohol use specifically between the ages of 11-14 years increases the risk of alcohol-related problems later in life (DeWit et al., 2000).

Early initiation is also associated with a greater likelihood of unintentional injury (Hingson & Zha, 2009), driving after drinking, and alcohol-related motor-vehicle crashes (Hingson et al., 2009). Binge drinking is associated with a greater likelihood of youth

having problems in school, being sexually active, attempting suicide, and using other drugs (Miller et al., 2007). For youth under the age of 21 in the U.S., excessive alcohol use is responsible for over 4,300 deaths each year (Centers for Disease Control and Prevention, 2015).

A recent review of neurocognitive impacts of alcohol use found that teenagers engaged in alcohol use and binge drinking performed worse overall in learning and memory tasks compared with non-drinkers (Jacobus & Tapert, 2013). Furthermore, the authors found that the process of new brain cell development, which occurs during adolescence, may be altered with alcohol intoxication, resulting in changes in brain structure, and may leave young people more vulnerable to addictive behaviors in the future (Jacobus & Tapert, 2013).

Declines in alcohol use

According to the Monitoring the Future (MTF) survey (Miech, Johnson, O'Malley, Bachman, & Schulenberg, 2015), an annual survey of drug use among 8th, 10th, 12th graders, college students and young adults, the decline in alcohol use among youth began in the 1980s and continued until the early 1990s. Past month prevalence of alcohol use among 12th graders declined substantially between 1980 (72%) and 1992 (51%). In the later 1990s, as illicit drug use increased, alcohol use and binge drinking increased as well, counter to the “displacement hypothesis,” i.e., increases in use of one drug will replace use of another. Evidence from 25 and 40 years of survey results from MTF indicates that trends in alcohol use actually follow trends in illicit drug use, rather than running counter to them. Through the 2000s, a gradual decline in past month alcohol use

continued among students in all three grades. In 2014, the most recent year of the MTF survey, 37% of 12th graders reported having consumed alcohol in the last 30 days, as did 23.5% of 10th graders and 9% of 8th graders – all declines since 1992 when 54%, 43% and 25% of students in each respective grade, reported past 30-day use (Miech et al., 2015).

Other research indicates that the current generation of teenagers is actually reducing their risk-taking behaviors across the board. Compared with 30 years ago, prevalence rates of a number of risk behaviors have decreased (Parker-Pope, 2012). In 1980, 30% of 12th grade students reported cigarette use in the past 30 days, compared with 13.8% in 2014 (Miech et al., 2015). The prevalence of ever having had sex among teens dropped significantly between 1991 (54.1%) and 2013 (46.8%) (Kann et al., 2014). Past 30-day use of illicit drugs, aside from marijuana, has decreased among 12th grade students from 18.4% in 1980 to 7.7% in 2014 (although prevalence rates here did increase between 1992 and 2002) (Miech et al., 2015).

It is impossible to identify definitive reasons for the decline in alcohol use, and as above, the displacement hypothesis proved to be incorrect. Over the period of the decline, however, there have been major undertakings towards reducing underage drinking in the U.S. In 1997, The Drug Free Communities Act was passed (Office of National Drug Control Policy, n.d.). Under the Act, the Drug Free Communities Support Program provided funding which continues to this day to local drug-free community coalitions working towards reducing drug use, including underage drinking. The Office of the National Drug Control Policy, in partnership with the Substance Abuse and Mental Health Services Administration, oversees this program. In 1998, Congress established

The Enforcing the Underage Drinking Laws (EUDL) Program (U.S. Department of Justice, n.d.). Between 1998 and 2007, Congress allocated \$25 million dollars annually towards preventing underage drinking. Programs under EUDL, at the state and local levels, worked to restrict the purchase and consumption of alcohol by minors.

Furthermore, in 2004, the Institute of Medicine (IOM) developed a strategy to prevent and reduce underage drinking, citing the harms and costs of alcohol use among youth (National Research Council and Institute of Medicine, 2004). In 2007, the Surgeon General of the United States released his Call to Action to Prevent and Reduce Underage Drinking (U.S. Department of Health and Human Services, 2007). This was a result of the burgeoning research on the effects of alcohol on the developing brain. The IOM strategy and the Call to Action both included alcohol policy recommendations that would reduce access and availability of alcohol for youth, as well as limit exposure to alcohol marketing.

These large-scale efforts to reduce underage drinking may be contributing to the decline in alcohol use, or conceivably, this generation of young people is simply engaging in fewer risk-taking behaviors. However, without the existing counter-trend that includes messages of normalized alcohol use saturated in the mass media (discussed in the following sections), drinking among this age group may have dropped even more dramatically.

Influences on alcohol use in adolescence

A study of 2573 high school students reported on their parents' opinions of adolescent alcohol use. Those who reported greater parental disapproval of alcohol use

were more likely to report less alcohol use and fewer consequences of use (Nash, McQueen, & Bray, 2005). Close, supportive relationships between parents and children mitigated a degree of negative influence from peers with regards to adolescent alcohol use (Bogenschneider, Wu, Raffaeili, & Tsay, 1998). Using data from the PROSPER study, which included five waves of data ($n = 9,020$ per wave) collected from a cohort of students starting in 6th grade and going through 9th grade, researchers found that adolescents changed their alcohol-use behaviors to match that of their peers. Furthermore, adolescents were most likely to choose friends with similar alcohol use patterns (Osgood et al., 2013).

Environmental factors play a large role in setting the stage for drinking practices of young people. Xuan et al. (2015) found that more stringent state-level policies on alcohol use in the U.S. were predictive of lower levels of adult alcohol consumption, which in turn was associated with lower levels of consumption among high school students. Between 1993 and 2005, prevalence rates of alcohol use by adults were correlated with alcohol-use rates of youth in the U.S. (Nelson et al., 2009). However, while use among youth has been falling, prevalence of drinking among those 12 years and above remained relatively unchanged between 2002 and 2013, roughly the period covered by this study (SAMHSA, 2014). Even this stable rate is significantly lower than most other well-resourced countries: as of 2013, just 52% of the U.S. population aged 12 years and above reported past month drinking, while 23% had binged (had five or more drinks within two hours) in the past 30 days (SAMHSA, 2014)

Alcohol-related features of an individual's neighborhood also influence alcohol use among youth. Alcohol availability, including the density of alcohol outlets within a

geographic region, is positively associated with prevalence of use (Chen, Gruenewald, & Remer, 2009; Gruenewald, 2011; Murphy, Roberts, Ploubidis, Stickley, & McKee, 2014; Rowland, Toumbourou, & Livingston, 2015) as is driving after drinking (Treno, Grube, & Martin, 2003).

The influence of alcohol marketing

As an element of the community-level sphere of influence, alcohol marketing in a young person's environment can impact level of consumption. Alcohol ads appear on public transit (Alcohol Justice, 2013; Nyborn, Wukitsch, Nhean, & Siegel, 2009), outdoor billboards located near schools (Hillier et al., 2009; Pasch, Komro, Perry, Hearst, & Farbakhsh, 2007), especially in areas with majority ethnic minorities (Kwate, Jernigan, & Lee, 2007; Maxwell & Jaconson, 1989), and increasingly in a young person's media environment, including online (Jernigan & Rushman, 2014; Leyshon, 2011; Nicholls, 2012).

In 2009, on cable television, the majority of youth exposure to alcohol advertising came from ads placed in programming where youth per capita were more likely than adults (21 and over) to be viewers (Center on Alcohol Marketing and Youth [CAMY], 2010). Similarly, 32% of radio alcohol ads occurred on programming where youth were per capita more likely than adults to be listeners (CAMY, 2011). Between 2001 and 2009, CAMY found a 71% increase in youth exposure to alcohol advertising on U.S. television, and by 2009 young people ages 12 to 20 were seeing an average of one alcohol ad on television per day (CAMY, 2012). Furthermore, Ross et al. (2014b) determined that, according to criteria for assessing targeting laid out by California courts

in a series of tobacco-related cases, 18 to 20 year-olds in the U.S. were targeted by alcohol advertising in four of seven years between 2005 and 2011.

Snyder et al. (2006) found that average level of exposure to alcohol advertisements on radio, in movies, on television and on billboards was positively related to an increase in drinking among 15 to 26 year-olds, over four waves of data collection. Results of a systematic review of 13 longitudinal studies on the impact of alcohol marketing on adolescent alcohol use demonstrated that young people's increased exposure to alcohol marketing in the form of alcohol-branded merchandise, or advertisements on television or radio and in newspapers, magazines and other forms of media predicted increased drinking if the young person currently drank, and was associated with earlier initiation of drinking if the young person had not yet begun drinking (Anderson et al., 2009). One of the 13 studies did not find a direct impact of exposure to outdoor alcohol advertising within close proximity to schools on behavior; however, exposure was related to intention to consume alcohol in the following month (Pasch et al., 2007).

Smith and Foxcroft (2009) identified seven longitudinal studies in a systematic review of the association between exposure to alcohol advertising, marketing and the portrayal of alcohol use, and self-reported alcohol use among youth. Results from the combined 13,000 subjects demonstrated a positive association between exposure to alcohol-related media messages and an increased likelihood of drinking among youth. More recently, researchers in one of those studies (Grenard, Dent, & Stacy, 2013) found that students in 7th grade (roughly age 12) who were exposed to alcohol ads on popular

TV programs and liked the ads were more likely to report alcohol-related problems by 10th grade (roughly age 15).

McClure et al. (2013) developed an alcohol marketing receptivity score to better express the combined effect of exposure to alcohol ads and the way in which people interpret and respond to the ads. They found that exposure in itself (low receptivity) was not as predictive of likelihood to drink as a more active response to alcohol marketing, for example, young people who like certain alcohol brands, or who own or want to own alcohol-branded merchandise (high receptivity). More recently, Tanski et al. (2015) found that the alcohol advertising receptivity scores among a sample of U.S. adolescents 15-23 years (n = 2541) positively predicted drinking initiation, the initiation of binge drinking and the initiation of hazardous drinking (AUDIT consumption subscore of 4+). Furthermore, research by Ross et al. (2014a) demonstrated an association between exposure to brand-specific alcohol ads on television and consumption of those same brands among youth ages 13-20.

Alcohol use portrayals in movies and on TV

Different from alcohol advertisements, alcohol portrayals in movies and on TV programs present alcohol use in a more developed narrative context, wherein the viewer is immersed in the life of a character and his or her daily routines. In this way, the viewer is exposed to a whole host of factors that relate to the character's drinking, such as the character's reasons for drinking, favorite types of drinks, and frequency and quantity of use.

Content analyses of alcohol use in movies have found dose-response relationships between adolescent exposure to alcohol use portrayals and early initiation of drinking (Hanewinkel et al., 2014; Sargent, Wills, Stoolmiller, Gibson, & Gibbons, 2006). Furthermore, exposure to alcohol use in movies was found to be associated with lifetime adolescent binge drinking (Hanewinkel et al., 2012). Other studies have looked at the impact of alcohol use in movies on young adults (e.g., Koordeman et al., 2011) and found similar results.

Studies on the impact of alcohol portrayals on TV programs, however, are both few in number and of significant concern during a time when young people in the U.S. spend the large majority of their media-use time with TV content (Nielsen, 2015). The landmark study of alcohol use on prime-time TV (TV programs airing between 8pm and 11pm) started in 1976 with Warren Breed and James De Foe (1981). The authors embarked on a 10-year project to document alcohol portrayals on the most popular situation comedies and one-hour dramas on TV. They used Nielsen data to identify the top 15 programs in each category during the 1976-1977 TV season. They coded 225 episodes making up 150 hours of programming. In their first publication they showed that alcohol use portrayals on TV far outnumbered actual consumption in the U.S (Breed & De Foe, 1981). Breed and De Foe found that on TV, alcohol was the beverage type consumed most, followed by coffee and tea, carbonated soft drinks, and then water. They cited consumption statistics for the U.S. in that same year (1977) that showed almost the opposite: among adults in the U.S. at the time, water was consumed most, followed by coffee and tea, carbonated soft drinks and then alcoholic beverages. Additionally, the

authors found that characters who consumed alcohol were mostly men, characterized as “good” people and rarely suffered consequences.

De Foe, Breed and Breed (1983) presented the next phase of their study as a content analysis of five years of alcohol use on TV (1976-1977 to 1981-1982 with 1980-1981 omitted due to a temporary funding cut). They reported that their coding remained mostly similar to phase one with the exception of additional coding categories and a number of deletions. The five-year study sample included 615.5 hours of TV programming. In this sample, the authors found a steady increase in the number of alcohol acts per hour of TV over the five years. In the first year of the study (1976-1977), they reported just under five alcohol acts per hour and in the final year (1981-1982), they reported just under nine alcohol acts per hour.

The final phase of their study was a look at alcohol use portrayals across 10 years of popular TV programs (Wallack, Grube, Madden, & Breed, 1990). Again, most of their coding methods remained the same over the entire study period, with increasingly greater ability to record detailed accounts of alcohol use because of the improved technology. For the final year of their study (1986), they coded 195 episodes for a total of 173 hours of TV programming. Similar to their earlier study, Wallack et al. (1990) saw an increase in the number of alcohol acts between 1976 (4.8 alcohol acts per hour) and 1984 (10.2), and then a decrease in 1985 (9.1) and 1986 (7.9).

Since the publication of the 10-year study described above, others have completed content analyses of alcohol portrayals on TV programs; however, all cover shorter periods of time. Mathios and colleagues (1998) looked at 276 TV episodes spanning 224 hours on four broadcast networks (ABC, CBS, NBC, FOX). They found 2.5 alcohol

incidents per hour in two weeks of primetime TV programming (one week in Fall 1994 and one week in Spring 1995). Of the episodes analyzed, 41% included an alcohol act. This means that the episodes that did include alcohol included many acts to make up the average 2.5 acts per episode over the entire sample.

Most other content analyses reported on the percentage of episodes including alcohol acts along with other alcohol-related variables, by scene and by character, and did not use the 'alcohol acts per hour' metric, making it hard to compare to the earlier works. Christensen et al. (2000) looked at the frequency of alcohol, tobacco and illicit drug use on the most popular prime-time TV programs in the 1998-1999 TV season. They used Nielsen data to identify the 42 top-rated situation comedies and dramas on broadcast networks, from which they coded four consecutive episodes that aired between October and December 1998, for a total of 168 episodes. They found that 71% (n = 119) of episodes showed alcohol use.

A content analysis of three years of popular prime-time TV programming (2004, 2005, and 2006) found that there was at least one alcohol appearance (preparation to drink or an ingestion) in 51% of episodes, and actual ingestions of alcohol in 33% of episodes (Murphy, Hether, & Rideout, 2008). Another content analysis looked at the alcohol content on popular TV programs airing on five broadcast networks (ABC, CBS, NBC, FOX, WB) during the 2004-2005 season and found that 89% of episodes had alcohol appearances in either the background or foreground of the scenes (Russell & Russell, 2009). Atkinson et al. (2011) completed a content analysis of alcohol use appearing on TV popular among youth (11-18 years) in England, online and in magazines in 2009. They analyzed 41 TV episodes for a total of 22 hours coded. Although they did

not report a percentage of episodes including an alcohol portrayal, they did report that “alcohol was featured” in 100% of the TV programs analyzed.

Other research has focused on single programs over time. Byrd-Bredbenner (2004) looked at health-related messages (HRMs), including messages about alcohol use, over nine seasons of *The Simpsons* (1989-1997). Health-related messages about alcohol use were the second most frequently cited, after HRMs regarding nutrition. The messages about alcohol use on *The Simpsons* portrayed primarily unhealthy role-modeling. Other researchers examined the alcohol content on three years of the program, *The O.C.* (2003, 2004, 2005) (Russell et al., 2009). They found that each episode included four minutes of alcohol on screen.

Theoretical Foundations

Adolescence and risk

There is particular public health interest in TV programs popular among youth, as adolescence is a time of significant change for individuals, physically, socially and overall in terms of psychosocial development (Sturdevant & Spear, 2002). This is a time when teens are looking to form their own identities and seeking out role models for guidance (Erikson, 1968). During adolescence, the developmental stage characterized by impulsivity (Whelan et al., 2012), risk behaviors (Jessor, 1991), uncertainty and vulnerability (Hamburg & Takanishi, 1989), exposure to influential role models engaging in alcohol use may encourage risk taking among young viewers.

Much of the media effects literature discusses the strong impact of media on behavior for adolescents (Brown, 2002; Escobar-Chaves & Anderson, 2008; Villani,

2001), particularly with regards to violence (Strasburger et al., 2009), sexuality (Escobar-Chaves et al., 2005), and substance use (Strasburger, 2010). At this age, sensation-seeking behavior is typically high while at the same time, impulse control is low. This time typically also marks a period of high emotional arousal that often takes the form of strong negativity including intense periods of stress often related to self-consciousness and self-doubt (Pechmann, Levine, Loughlin, & Leslie, 2005). Taken together, the neurobiological bases of the cognitions of adolescence leave young people potentially more vulnerable to the effects of alcohol marketing (Pechmann et al., 2005). Alcohol marketing, either in the form of advertisements or alcohol use portrayals embedded in TV narratives, presents a glamorized view of alcohol use, aspirational in nature (Smith, Cukier, & Jernigan, 2013) with few consequences (Atkinson, Bellis, & Sumnall, 2013; Christenson et al., 2000). These portrayals, therefore, present an important line of influence and provide a rationale for further investigation.

It is important to recognize as well, that there are individual differences in young people's predispositions to act in certain ways, regardless of media exposure (Castellanos-Ryan, O'Leary-Barrett, Sully, & Conrod, 2013). Certain individual dispositional characteristics put young people at greater risk of health risk behaviors, such as alcohol use, including: sensation-seeking (Kong et al., 2013; Wagner, 2001), disinhibition and disagreeableness (Kotov, Gamez, Schmidt, & Watson, 2010). These characteristics, or the individual's temperament, are shaped in large part by genetics as well as through early life experiences and environment (Buss & Plomin, 1975; Caspi, 1998).

Social Cognitive Theory

Social Cognitive Theory (Bandura, 1994) helps to explain another individual-level influence on young people's alcohol use: the impact of personal beliefs about alcohol consumption developed through observational learning and social modeling. When individuals see others like them or others whom they aspire to be like engaging in drinking behaviors, they are more likely to participate and learn to behave similarly (Bandura, 1986). According to Bandura (1986), there are three core factors that interact to affect behavior, one of which – the behavior itself – also influences the other two. This theory of *Reciprocal Determinism* includes personal factors, environmental factors and behavior patterns that all interact dynamically and reciprocally. Personal factors include an individual's level of self-efficacy and sense of agency and environmental factors include elements in an individual's immediate social or physical environment, including the media. For example, in the case of an individual who has low levels of self-efficacy (personal factor), and who is exposed to violence in his or her environment, perhaps on TV (environment), then he or she will be more likely to exhibit more violent behavior. That individual's violent behavior will then influence the behavior of others in his or her environment, illustrating the principal of reciprocity in the theory.

The pathway between environmental factors and behavior patterns is highlighted for the purpose of this project, through an exploration of the theoretical foundations that connect youth exposure to alcohol portrayals on TV with alcohol consumption. Popular media, and more specifically portrayals of alcohol use on TV, is an environmental factor influencing behavior through cognitive processes. These cognitive processes -- symbolizing, self-regulatory, self-reflective and vicarious capabilities -- facilitate the

generation of ideas and the decision-making process towards action or inaction (Bandura, 2001).

Symbolizing capabilities allow an individual to make decisions based on symbolic experiences rather than actual experiences. Self-regulatory capabilities allow an individual to set goals and rise to the challenge of meeting those goals, thereby reducing discrepancy, after which time new goals are set and effort is put forth to again reduce the discrepancy to reach the next goal. As a result, the individual gains a stronger sense of self-efficacy. Self-reflective capability is a series of thought verification mechanisms through which an individual evaluates how well his or her own thoughts match different indicators of reality before acting. Finally, vicarious capability is using observational learning and modeling of behavior in an individual's environment to make decisions on behavior. In vicarious processing, an individual can make use of the expanse of learning made available through environmental models in the "symbolic environment" (Bandura, 2001, p.267) instead of relying only on his or her own experienced reality. The environmental models include those observed on TV programs.

Bandura (2001) also discusses the level of potential impact of "mass communication" on human behavior. Bandura emphasizes the social learning that occurs through the modeling of behaviors in one's immediate environment, in this case the modeling of drinking behaviors observed on popular television shows. The symbolic environment provided by the narratives of TV programs allows viewers to experience life beyond their physical surroundings.

As individuals spend more time watching TV, they become more familiar with the characters, their activities, feelings and aspirations. They connect with characters and

may even feel as though friendships are developing. These one-sided relationships, termed parasocial relationships, are instrumental in potential modeling of behaviors (Horton & Wohl, 1956). Brown et al. (2005) termed TV characters “super-peers” for their potential to influence behavior. As connections are made and the sense of familiarity remains with viewers, modeling is more likely to occur, including potentially with patterns of drinking (Engels, Hermans, van Baaren, Hollenstein, & Bot, 2009). Furthermore, viewers are more likely to model their own behavior on that of characters whom they consider more attractive (Bahk, 2001) and more sympathetic (Quigley & Collins, 1999).

Vladimir Propp was one of the first scholars to develop a structural approach to analyzing narratives (Wigston, 2001). Propp’s (1968) *Morphology of the Folktale*, first published in 1928, is a systematic analysis of hundreds of Russian folk tales. Propp’s purpose was to identify plot and character elements common to all narratives. The result was a system of classification of folk tale (or fairy tale) scenarios, character functions and character types. His analytic structure has since been used and adapted to analyze television narratives (e.g. Berger, 1989; Silverstone, 1987). Propp (1968) identified seven character types or roles; four of these are types most often portrayed in American television narratives: the hero, the princess, the helper and the villain (Wigston, 2001). These are the character typologies I used to classify characters in my studies (see chapter 2 for a description of each typology). Typically, the hero and the princess characters are presented as more attractive (Fiske, 2011), making them more likely to be modeled by TV viewers (Bahk, 2001), as described above. For this reason, I draw attention to the drinking behaviors of these two character types in my research.

Bandura (2001) cites the work of Ball-Rokeach and DeFleur in saying that the media's impact on daily life will become stronger as individuals rely more on the symbolic environment created by the media to inform their reality. Over the past 15 years, the media's breadth and depth have expanded far beyond the level of impact discussed previously, making newer theories or combinations of theories necessary to better explain and comprehend the interaction between human behavior and the mass media environment in which we now live. For this reason, the guiding rationale of this project is based on multiple theoretical models that work together to help explain the potential impact on individual behavior of the behavioral modeling done by TV characters. Figure 1.1 illustrates the conceptual model that guides this research.

Cultivation Perspective

The Cultivation Perspective provides a rationale for focusing this study on TV programming. With the proliferation of TV viewing starting in the 1960s, Gerbner and Gross undertook a study to investigate the impact of the national shared exposure to TV violence: *The Cultural Indicators Project* (Gerbner & Gross, 1976). Television conveyed the same messages to all American populations, regardless of age, sex, educational status or income, and was considered the central influence of culture. Gerbner and Gross sought to explore how the level of TV viewing (light to heavy) affected a viewer's image of the world. They found that compared to light viewers, heavy viewers of TV were more likely to report there were more people employed in law enforcement than in reality, that most people cannot be trusted, and that their chances of being involved in violence were one in 10, as opposed to one in 100 for light viewers. The perpetuation of violence on TV, they

found, was cultivating an individual-level “reality” that looked more like TV than real life.

The tradition of cultivation analysis has flourished since the 1960s. As of 2010, there were over 500 published studies using cultivation as a guiding theory (Morgan & Shanahan, 2010). The main tenets of the theory continue in the tradition of the original investigations: according to Cultivation theory (Gerbner et al., 2002), a heavy TV viewer’s perception of reality is shifted towards the ‘reality’ they see on TV. A heavy TV viewer believes in a reality where there is more crime (Gerbner, Gross, Morgan, & Signorelli, 1980), more affluence (Shrum, O’Guinn, Semenik, & Faber, 1991) and more product ownership (O’Guinn & Shrum, 1997) than in reality as a result of the proliferation of these messages on TV. For the purposes of this project, the same could perhaps be inferred for the perception of rates of alcohol use.

The process of cultivating beliefs and attitudes occurs through the cumulative influence of the aggregate, overarching messages delivered by TV programming (Gerbner, 1973). Gerbner considered all of TV programming to be delivering the same general messages, masked in different TV genres (Gerbner, Gross, Morgan, Signorelli, & Shanahan, 2008). This exposure, he posited, had gradual and long-term effects because of the broad message base provided by TV and its ability to reinforce those messages through continuous exposure in everyday life (Gerbner, 1973).

It should be noted that cultivation theory is not an investigation into the immediate effects of exposure to a particular message in particular programming, but rather a more general theory explaining the effects of cumulative exposure to overarching messages over time. This helps to explain why this study focuses on identifying and

quantifying these overarching messages about alcohol use, as well as the rationale for choosing TV as the medium to investigate.

Transportation Theory

Transportation Theory provides further support for studying TV programming. As viewers become immersed in the storyline of a fictional TV program, emotionally involved with characters, and even begin to picture themselves participating in the events taking place, they are transported into a narrative world (Green & Brock, 2000). Gerrig (1993) first described transportation with regards to “traveling” into the world of fiction while reading books. Narrative transportation has since been extended to include immersion into other forms of media, including TV (Green & Brock, 2000; Green et al., 2008).

This same type of transportation, however, does not occur when seeing magazine ads, TV ads, or watching movies, since TV programs run over much longer periods of time. This longer period of time provides viewers with the opportunity to connect with characters, form parasocial relationships, and to be part of the ongoing “fandom” (p.398) of the TV program (Russell & Puto, 1999). These “fans” often get together with friends to watch TV episodes, share episode reactions with others, or join online fan communities throughout the TV season. Through focus group research, Russell et al. (1999) found that some individuals ritualize weekly viewings. Groups of friends get together on the same night each week, eat the same food each time, watch the TV episode and then discuss what the next episode might be about. This possibility for closeness that

may develop between viewers and characters is implicit in behavior modeling; it further justifies the study of alcohol portrayals on TV as a potential mechanism of influence.

The degree to which an individual is transported into the storyline of a narrative depends on four main elements: 1) the quality of the story; 2) “transportability” of the individual (discussed later); 3) the appropriate pairing of an individual’s knowledge, with the content of the story; and 4) goals of the viewer (Green & Dill, 2013). The more an individual is transported into the narrative, the more likely he or she is to model the attitudes, beliefs and behaviors of the characters (Green & Clark, 2013). Therefore, level of transportability is an important variable in understanding modeling and the influence of TV programming on viewers.

Green and Brock (2000) developed a scale to assess the level of “transportability” of an individual: a self-report questionnaire with 11 general items plus four items that relate directly to a TV program or movie. Individuals answer questions on a scale of 1 (not at all) to 7 (very much). The resulting level of transportability is a combination of the cognitive, emotional and mental imagery components of the process. A sampling of the questions includes: “I could picture myself in the scene of the events described in the narrative”; “The narrative affected me emotionally”; and “The events in the narrative changed my life” (Green & Brock, 2000, p. 704). A six-item short form of the scale has since been developed and validated (Appel, Gnambs, Richter, & Green, 2015).

Normalization

During a period where alcohol use messages in the media are profuse and drinking prevalence rates around the world are substantial, researchers have termed

alcohol use as normalized in our society (Sznitman et al., 2013). The contribution of alcohol marketing to normalization, however, has not been systematically documented. Parker (2005) developed a six-indicator scale to measure the normalization of illicit drug use. Since no similar scale exists for alcohol use, I adapted the following to help conceptualize and measure the normalization of alcohol use. I replaced all instances of “illicit drug use” in the original scale with “alcohol use”:

- (1) Increasing access and availability of alcohol in the community;
- (2) Increasing prevalence of alcohol use;
- (3) Increasingly tolerant attitudes towards alcohol use and misuse among both users and non-users;
- (4) Future expectations about alcohol use among current abstainers;
- (5) The “cultural accommodation” of alcohol use in youth-oriented film, TV and music;
- (6) More liberal policy shifts with regards to the distribution and consumption of alcohol.

I am most interested in item #5 on the scale: The cultural accommodation of alcohol use in youth-oriented media. By measuring the way alcohol use is portrayed on TV programs most popular among youth, which is the central aim of this project, I am contributing to further exploration and understanding of the concept of normalization as it applies to alcohol use. Measuring the cultural accommodation of use, according to Parker, includes a measure of the shift in the way substance use is presented. In my study, this manifests as the analysis of alcohol portrayals over the 10-year study period.

When alcohol use is normalized in society, prevalence rates may remain high since little is done to restrict use (Connolly, Casswell, Zhang, & Silva, 1994). The proliferation of alcohol use portrayals on TV and in other media contribute to this normalization and likely result in a shift in the way young people perceive the potential risks involved (Griffiths & Casswell, 2010). This has implications for policy, as was the case after the 1920s Prohibition era repeal. Normalization was one of the reasons used to legalize alcohol: industrial toxicologist Yandell Henderson argued at that time that alcohol should be considered a normal part of everyday life and that beer was not an “intoxicating liquor” (Pauly, 1994).

It is instructive to look at the patterns of alcohol use through the centuries, to gain insight into drinking patterns and drinking contexts over time. Aaron and Musto (1981) provide a historical account of alcohol use beginning with the Colonial Period (16th and 17th Centuries), when heavy drinking was common and encouraged. Alcohol was considered “healthy” and was in fact cleaner than the sediment-filled water available then. Through the 18th Century, alcohol consumption continued at high levels. The rum trade resulted in an over-abundance in the production of alcohol while controls on sale and distribution were relaxed. Whiskey trading and the whiskey tax in the 19th Century continued to contribute to high supply and demand for liquor. With this progressive and steady increase in consumption over time came social disorder, and then attempts to control the disorder. As a result, Temperance movements in the 1800s led to Prohibition in the early in the 20th century and finally the repeal of Prohibition shortly after that.

According to Aaron and Musto (1981), each of these “long waves” of consumption created a specific environmental context in which alcohol is consumed. It

was “normal” to drink heavily during the Colonial Period; everyone was engaging in the behavior and aside from extreme drunkenness, this behavior was tolerated. Currently, our context provides us with information to indicate that alcohol use is indeed normal again. The messages and messengers to whom we are exposed most – the mass media (see section above “The influence of alcohol marketing”) – demonstrate for us that drinking is common, tolerated, celebrated and used socially. The problem with this, however, is that the serious harms and high costs associated with current alcohol use are largely buried in public discourse, and resources to mitigate or prevent them are not commensurate with the levels of harm (Giesbrecht, Cukier, & Steeves, 2010). Today, the steady liberalization policies related to alcohol access, e.g., restrictions on hours and days of sale, minimum legal drinking age, and policies affecting alcohol marketing may be one outcome of the normalization of alcohol use in society (Giesbrecht, 2010).

Conclusions

In this chapter, I provided foundational arguments detailing the current problem with regards to alcohol use among youth. Although prevalence data from the last 30 years indicate an overall decline in use among teens, the harms and costs of consumption remain significant. One factor that influences alcohol use among youth is exposure to alcohol marketing in the media. I described the multiple media to which youth are exposed, as well as reviewed research on the effects of this exposure. I highlighted TV as a special medium of exposure because of its ability to transport the viewer into long-running, character-driven narratives, and its concomitant potential to influence behavior through modeling. I also presented the theoretical foundations upon which this

dissertation is based and provided a conceptual model to visually represent how the combination of theories works in concert to help explain behavior modeling.

In the next section I will describe the methods I used to explore alcohol portrayals on TV programs. In the chapters thereafter, I will present the results of my studies documenting alcohol portrayals on TV programming popular among youth over a 10-year period. I will also describe the alcohol-use constructs presented on this TV programming, and how they are presented in the context of normalized use. I will conclude this dissertation with public health policy implications and recommendations for future studies in the field.

References

- Aaron, P., & Musto, D. (1981). Temperance and prohibition in America: a historical overview. In M. H. Moore & D. R. Gerstein (Eds.), *Policy: beyond the shadow of prohibition*. Washington, DC: National Academy Press.
- Alcohol Justice. (2013). These bus ads don't stop for children Retrieved June 18, 2015, from https://alcoholjustice.org/images/reports/aj_transitad_report_f_low.pdf
- Anderson, P., de Bruijn, A., Angus, K., Gordon, R., & Hastings, G. (2009). Impact of alcohol advertising and media exposure on adolescent alcohol use: A systematic review of longitudinal studies. *Alcohol and Alcoholism*, 44(3), 229-243.
- Appel, M., Gnambs, T., Richter, T., & Green, M. C. (2015). The Transportation Scale–Short Form (TS–SF). *Media Psychology*, 18(2), 243-266. doi: 10.1080/15213269.2014.987400
- Atkinson, A., Elliott, G., Bellis, M., & Sumnall, H. R. (2011). *Young people, alcohol and the media*. York, UK: Joseph Rowntree Foundation.
- Atkinson, A. M., Bellis, M., & Sumnall, H. (2013). Young peoples' perspective on the portrayal of alcohol and drinking on television: Findings of a focus group study. *Addiction Research & Theory*, 21(2), 91-99. doi: doi:10.3109/16066359.2012.687795
- Bahk, C. M. (2001). Perceived realism and role attractiveness in movie portrayals of alcohol drinking. *American Journal of Health Behavior*, 25(5), 433-446.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

- Bandura, A. (2001). Social Cognitive Theory of Mass Communication. [Article]. *Media Psychology*, 3(3), 265-299.
- Berger, A. A. (1989). "He's everything you're not..." a semiological analysis of "Cheers". In G. Burns & R. J. Thompson (Eds.), *Television studies: textual analysis* (pp. 89-101). New York: Praeger.
- Bogensneider, K., Wu, M. Y., Raffaeili, M., & Tsay, J. C. (1998). Parent Influences on Adolescent Peer Orientation and Substance Use: The Interface of Parenting Practices and Values. *Child Development*, 69(6), 1672-1688.
- Breed, W., & De Foe, J. R. (1981). The Portrayal of the Drinking Process on Prime-Time Television. *Journal of Communication*, 31(1), 58-67. doi: 10.1111/j.1460-2466.1981.tb01205.x
- Brown, J. D., and Witherspoon, E.M. . (2002). The mass media and American adolescents' health. *Journal of Adolescent Health*, 31, 153-170.
- Brown, J. D., Halpern, C. T., & L'Engle, K. L. (2005). Mass media as a sexual super peer for early maturing girls. *Journal of Adolescent Health*, 36(5), 420-427. doi: 10.1016/j.jadohealth.2004.06.003
- Bryden, A., Roberts, B., McKee, M., & Petticrew, M. (2012). A systematic review of the influence on alcohol use of community level availability and marketing of alcohol. *Health and Place*, 18(2), 349-357. doi: 10.1016/j.healthplace.2011.11.003
- Buss, A. H., & Plomin, R. (1975). *A temperament theory of personality development*. New York, NY: Wiley-Interscience.

- Byrd-Bredbenner, C. (2004). An internationally shared health frame of reference created by a television program: The Simpsons, a content analysis of health messages. *Health Education, 104*(1), 18-24.
- Caspi, A. (1998). Personality development across the lifecourse. In N. Eisenberg (Ed.), *Handbook of child psychology* (Fifth ed., Vol. 3, pp. 311-388). New York, NY: Wiley.
- Castellanos-Ryan, N., O'Leary-Barrett, M., Sully, L., & Conrod, P. (2013). Sensitivity and specificity of a brief personality screening instrument in predicting future substance use, emotional, and behavioral problems: 18-month predictive validity of the Substance Use Risk Profile Scale. *Alcohol Clinical and Experimental Research, 37 Suppl 1*, E281-290. doi: 10.1111/j.1530-0277.2012.01931.x
- Center on Alcohol Marketing and Youth. (2010). Youth Exposure to Alcohol Advertising on Television, 2001-2009. Baltimore, MD: Center on Alcohol Marketing and Youth.
- Center on Alcohol Marketing and Youth. (2011). Youth exposure to alcohol product advertising on local radio in 75 U.S. markets, 2009. Baltimore, MD: Johns Hopkins Bloomberg School of Public Health.
- Center on Alcohol Marketing and Youth. (2012). Youth exposure to alcohol advertising on television, 2001-2009 Retrieved June 18, 2015, from http://www.camy.org/research/Youth_Exposure_to_Alcohol_Ads_on_TV_Growing_Faster_Than_Adults/_includes/TVReport01-09_Revised_7-12.pdf

- Centers for Disease Control and Prevention. (2015). Alcohol-Related Disease Impact (ARDI) application, 2006-2010, from http://apps.nccd.cdc.gov/DACH_ARDI/Default/Default.aspx
- Chen, M.-J., Grube, J. W., Bersamin, M., Waiters, E., & Keefe, D. B. (2005). Alcohol Advertising: What Makes It Attractive to Youth? [Article]. *Journal of Health Communication, 10*(6), 553-565. doi: 10.1080/10810730500228904
- Chen, M. J., Gruenewald, P. J., & Remer, L. G. (2009). Does Alcohol Outlet Density Affect Youth Access to Alcohol? *Journal of Adolescent Health, 44*(6), 582-589. doi: 10.1016/j.jadohealth.2008.10.136
- Christenson, P. G., Henriksen, L., & Roberts, D. F. (2000). Substance use in popular prime time television: Office of National Drug Control Policy.
- Connolly, G. M., Casswell, S., Zhang, J., & Silva, P. (1994). Alcohol in the mass media and drinking by adolescents: A longitudinal study. *Addiction Research & Theory, 89*(10), 1255-1263.
- Dawson, D. A., Goldstein, R. B., Chou, S. P., Ruan, W. J., & Grant, B. F. (2008). Age at first drink and the first incidence of adult-onset DSM-IV alcohol use disorders. *Alcohol Clinical and Experimental Research, 32*(12), 2149-2160. doi: 10.1111/j.1530-0277.2008.00806.x
- De Foe, J. R., Breed, W., & Breed, L. A. (1983). Drinking on television: A five-year study. *Journal of Drug Education, 13*(1), 25-38.
- DeWit, D. J., Adlaf, E. M., Offord, D. R., & Ogborne, A. C. (2000). Age at first alcohol use: a risk factor for the development of alcohol disorders. *American Journal of Psychiatry, 157*(5), 745-750.

- Engels, R. C., Hermans, R., van Baaren, R. B., Hollenstein, T., & Bot, S. M. (2009). Alcohol portrayal on television affects actual drinking behaviour. *Alcohol & Alcoholism*, 44(3), 244-249. doi: 10.1093/alcalc/agg003
- Erikson, E. H. (1968). *Identity, Youth, and Crisis*. New York: W.W. Norton & Company.
- Escobar-Chaves, S. L., & Anderson, C. A. (2008). Media and risky behaviors. *Future Child*, 18(1), 147-180.
- Escobar-Chaves, S. L., Tortolero, S. R., Markham, C. M., Low, B. J., Eitel, P., & Thickstun, P. (2005). Impact of the media on adolescent sexual attitudes and behaviors. *Pediatrics*, 116(1), 303-326.
- Fiske, J. (2011). Some television, some topics, and some terminology *Television culture* (2nd ed., pp. 1-20). New York, NY: Routledge.
- Gerbner, G. (1973). Cultural indicators: the third voice. In G. Gerbner, L. P. Gross & W. H. Melody (Eds.), *Communication technology and social policy* (pp. 555-573). New York, NY: John Wiley & Sons.
- Gerbner, G., & Gross, L. (1976). Living with television: the violence profile. *Journal of Communication*, 26(2), 172-194.
- Gerbner, G., Gross, L., Morgan, M., & Signorelli, N. (1980). Aging with television: Images on television drama and conceptions of social reality. *Journal of Communication*, 30(1), 37-47.
- Gerbner, G., Gross, L., Morgan, M., Signorelli, N., & Shanahan, J. (2002). Growing up with television: the cultivation perspective. In J. Bryant & D. Zillman (Eds.), *Media effects: advances in theory and research* (pp. 43-67). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

- Gerbner, G., Gross, L., Morgan, M., Signorelli, N., & Shanahan, J. (2008). Growing up with television: Cultivation processes. In J. Bryant & D. Zillman (Eds.), *Media effects: Advances in theory and research* (2nd ed., pp. 43-68). Mahwah, NJ: Lawrence Earlbaum Associates.
- Gerrig, R. J. (1993). *Experiencing narrative worlds*. New Haven: Yale University Press.
- Giesbrecht, N. (2010). Alcohol and society: a population health perspective. *Nordic Studies on Alcohol and Drugs*, 27(5), 377-381.
- Giesbrecht, N., Cukier, S., & Steeves, D. (2010). Collateral damage from alcohol: implications of 'second-hand effects of drinking' for populations and health priorities. *Addiction*, 105(8), 1323-1325. doi: 10.1111/j.1360-0443.2009.02884.x
- Grant, B. F., & Dawson, D. A. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse*, 9, 103-110.
- Green, M. C., & Brock, T. C. (2000). The role of transportation in the persuasiveness of public narratives. *Journal of Personality and Social Psychology*, 79(5), 701-721.
- Green, M. C., & Clark, J. L. (2013). Transportation into narrative worlds: implications for entertainment media influences on tobacco use. *Addiction*, 108(3), 477-484. doi: 10.1111/j.1360-0443.2012.04088.x
- Green, M. C., & Dill, K. E. (2013). Engaging with stories and characters: learning, persuasion, and transportation into narrative worlds. In K. E. Dill (Ed.), *The Oxford Handbook of Media Psychology* (pp. 449-461). New York, NY: Oxford University Press.

- Green, M. C., Kass, S., Carrey, J., Herzig, B., Feeney, R., & Sabini, J. (2008).
Transportation Across Media: Repeated Exposure to Print and Film. [Article].
Media Psychology, 11(4), 512-539. doi: 10.1080/15213260802492000
- Grenard, J. L., Dent, C. W., & Stacy, A. W. (2013). Exposure to alcohol advertisements
and teenage alcohol-related problems. *Pediatrics*, 131(2), e369-379. doi:
10.1542/peds.2012-1480
- Griffiths, R., & Casswell, S. (2010). Intoxicogenic digital spaces? Youth, social networking
sites and alcohol marketing. [Article]. *Drug & Alcohol Review*, 29(5), 525-530.
doi: 10.1111/j.1465-3362.2010.00178.x
- Grube, J. W., & Waiters, E. (2005). Alcohol in the media: content and effects on drinking
beliefs and behaviors among youth. *Adolescent Medicine Clinics*, 16(2), 327-343,
viii. doi: 10.1016/j.admecli.2005.02.005
- Grube, J. W., & Wallack, L. (1994). Television beer advertising and drinking knowledge,
beliefs, and intentions among schoolchildren. *American Journal of Public Health*,
84(2), 254-259.
- Gruenewald, P. J. (2011). Regulating availability: How access to alcohol affects drinking
and problems in youth and adults. *Alcohol Research and Health*, 34(2), 248-256.
- Hamburg, D. A., & Takanishi, R. (1989). Preparing for life: The critical transition of
adolescence. *American Psychologist*, 44(5), 825-827. doi: 10.1037/0003-
066x.44.5.825
- Hanewinkel, R., Sargent, J. D., Hunt, K., Sweeting, H., Engels, R. C., Scholte, R. H., . . .
Morgenstern, M. (2014). Portrayal of alcohol consumption in movies and

- drinking initiation in low-risk adolescents. *Pediatrics*, 133(6), 973-982. doi: 10.1542/peds.2013-3880
- Hanewinkel, R., Sargent, J. D., Poelen, E. A., Scholte, R., Florek, E., Sweeting, H., . . . Morgenstern, M. (2012). Alcohol consumption in movies and adolescent binge drinking in 6 European countries. *Pediatrics*, 129(4), 709-720. doi: 10.1542/peds.2011-2809
- Hillier, A., Cole, B. L., Smith, T. E., Yancey, A. K., Williams, J. D., Grier, S. A., & McCarthy, W. J. (2009). Clustering of unhealthy outdoor advertisements around child-serving institutions: A comparison of three cities. *Health and Place*, 15(4), 935-945. doi: 10.1016/j.healthplace.2009.02.014
- Hingson, R. W., Edwards, E. M., Heeren, T., & Rosenbloom, D. (2009). Age of drinking onset and injuries, motor vehicle crashes, and physical fights after drinking and when not drinking. *Alcohol Clinical and Experimental Research*, 33(5), 783-790. doi: 10.1111/j.1530-0277.2009.00896.x
- Hingson, R. W., & Zha, W. (2009). Age of drinking onset, alcohol use disorders, frequent heavy drinking, and unintentionally injuring oneself and others after drinking. *Pediatrics*, 123(6), 1477-1484. doi: 10.1542/peds.2008-2176
- Horton, D., & Wohl, R. R. (1956). Mass communication and para-social interaction: observations on intimacy at a distance. *Psychiatry*, 19(3), 215-229.
- Jacobus, J., & Tapert, S. F. (2013). Neurotoxic effects of alcohol in adolescence. *Annual Review of Clinical Psychology*, 9, 703-721. doi: 10.1146/annurev-clinpsy-050212-185610

- Jernigan, D. H., & Rushman, A. E. (2014). Measuring youth exposure to alcohol marketing on social networking sites: challenges and prospects. *Journal of Public Health Policy, 35*(1), 91-104. doi: 10.1057/jphp.2013.45
- Jessor, R. (1991). Risk behavior in adolescence: A psychosocial framework for understanding and action. *Journal of Adolescent Health, 12*(8), 597-605.
- Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2011). Monitoring the Future National Survey Results on Drug Use, Overview of Key Findings, 2011. Bethesda, MD: National Institute on Drug Abuse.
- Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (2015). Monitoring the Future national survey results on drug use: 1975-2014: 2014 Overview, key findings on adolescent drug use. Ann Arbor: Institute for Social Research, The University of Michigan.
- Jones, S. C., & Magee, C. A. (2011). Exposure to alcohol advertising and alcohol consumption among Australian adolescents. *Alcohol and Alcoholism, 46*(5), 630-637. doi: 10.1093/alcalc/agr080
- Kann, L., Kinchen, S., Shanklin, S. L., Flint, K. H., Hawkins, J., Harris, W. A., . . . Zaza, S. (2014). Youth Risk Behavior Surveillance - United States, 2013 *MMWR* (Vol. 63;No. 4). Atlanta, GA: Centres for Disease Control and Prevention.
- Kong, G., Smith, A. E., McMahon, T. J., Cavallo, D. A., Schepis, T. S., Desai, R. A., . . . Krishnan-Sarin, S. (2013). Pubertal status, sensation-seeking, impulsivity, and substance use in high school-aged boys and girls. *Journal of Addiction Medicine, 7*(2), 116-121. doi: 10.1097/ADM.0b013e31828230ca

- Koordeman, R., Anschutz, D. J., & Engels, R. (2012). Alcohol Portrayals in Movies, Music Videos and Soap Operas and Alcohol Use of Young People: Current Status and Future Challenges. *Alcohol and Alcoholism*, 47(5), 612-623. doi: 10.1093/alcalc/ags073
- Koordeman, R., Kuntsche, E., Anschutz, D. J., van Baaren, R. B., & Engels, R. C. M. E. (2011). Do We Act upon What We See? Direct Effects of Alcohol Cues in Movies on Young Adults' Alcohol Drinking. *Alcohol and Alcoholism*, 46(4), 393-398. doi: 10.1093/alcalc/agr028
- Kotch, J. B., Coulter, M. L., & Lipsitz, A. (1986). Does televised drinking influence children's attitudes toward alcohol? *Addictive Behaviors*, 11(1), 67-70.
- Kotov, R., Gamez, W., Schmidt, F., & Watson, D. (2010). Linking "big" personality traits to anxiety, depressive, and substance use disorders: a meta-analysis. *Psychological Bulletin*, 136(5), 768-821. doi: 10.1037/a0020327
- Kwate, N. O. A., Jernigan, M., & Lee, T. (2007). Prevalence, proximity and predictors of alcohol ads in central Harlem. *Alcohol and Alcoholism*, 42(6), 635-640. doi: 10.1093/alcalc/agm053
- Leyshon, M. (2011). New media, new problem? Alcohol, young people and the Internet. London: Alcohol Concern.
- Martin, S. E., Snyder, L. B., Hamilton, M., Fleming-Milici, F., Slater, M. D., Stacy, A., . . . Grube, J. W. (2002). Alcohol advertising and youth. *Alcohol Clinical and Experimental Research*, 26(6), 900-906.

- Mason, W. A., & Windle, M. (2001). Family, Religious, School and Peer Influences on Adolescent Alcohol Use: A Longitudinal Study. *Journal of Studies on Alcohol and Drugs*, 62(1), 44-53.
- Mathios, A., Avery, R., Bisogni, C., & Shanahan, J. (1998). Alcohol portrayal on prime-time television: Manifest and latent messages. *Journal of Studies on Alcohol*, 59(3), 305-310.
- Maxwell, B., & Jaconson, M. (1989). Marketing disease to hispanics: The selling of alcohol, tobacco and junk foods. Washington, DC: Center for Science in the Public Interest.
- McClure, A. C., Stoolmiller, M., Tanski, S. E., Engels, R. C., & Sargent, J. D. (2013). Alcohol marketing receptivity, marketing-specific cognitions, and underage binge drinking. *Alcohol Clinical and Experimental Research*, 37 Suppl 1, E404-413. doi: 10.1111/j.1530-0277.2012.01932.x
- Miech, R. A., Johnson, R. M., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2015). Monitoring the future national survey on drug use 1975-2014: Volume 1. Secondary school students. Ann Arbor, MI: Institute for Social Research, The University of Michigan.
- Miller, J. W., Naimi, T. S., Brewer, R. D., & Jones, S. E. (2007). Binge drinking and associated health risk behaviors among high school students. *Pediatrics*, 119(1), 76-85. doi: 10.1542/peds.2006-1517
- Morgan, M., & Shanahan, J. (2010). The state of cultivation. *Journal of Broadcasting & Electronic Media*, 54(2), 337-355. doi: 10.1080/08838151003735018

- Murphy, A., Roberts, B., Ploubidis, G. B., Stickley, A., & McKee, M. (2014). Using multi-level data to estimate the effect of an 'alcogenic' environment on hazardous alcohol consumption in the former Soviet Union. *Health & Place*, 27(0), 205-211. doi: <http://dx.doi.org/10.1016/j.healthplace.2014.02.015>
- Murphy, S. T., Hether, H. J., & Rideout, V. (2008). How healthy is prime time? Menlo Park, CA: The Kaiser Family Foundation and The USC Annenberg Norman Lear Center's Hollywood, Health & Society.
- Nash, S. G., McQueen, A., & Bray, J. H. (2005). Pathways to adolescent alcohol use: family environment, peer influence, and parental expectations. *Journal of Adolescent Health*, 37(1), 19-28. doi: 10.1016/j.jadohealth.2004.06.004
- National Research Council and Institute of Medicine. (2004). Reducing underage drinking: a collective responsibility. In R. J. Bonnie & M. E. O'Connell (Eds.). Washington, DC: Board on Children, Youth, and Families, Division of Behavioral and Social Sciences and Education.
- Nelson, D. E., Naimi, T. S., Brewer, R. D., & Nelson, H. A. (2009). State alcohol-use estimates among youth and adults, 1993-2005. *American Journal of Preventive Medicine*, 36(3), 218-224. doi: 10.1016/j.amepre.2008.10.018
- Nicholls, J. (2012). Everyday, everywhere: alcohol marketing and social media--current trends. *Alcohol and Alcoholism*, 47(4), 486-493. doi: 10.1093/alcalc/ags043
- Nielsen. (2015). The total audience report Q4 2014 Retrieved April 29, 2015, from <http://www.nielsen.com/content/dam/corporate/us/en/reports-downloads/2015-reports/total-audience-report-q4-2014.pdf>

- Nyborn, J. A., Wukitsch, K., Nhean, S., & Siegel, M. (2009). Alcohol advertising on Boston's Massachusetts Bay Transportation Authority transit system: an assessment of youths' and adults' exposure. *Am J Public Health, 99 Suppl 3*, S644-648. doi: 10.2105/ajph.2008.149906
- O'Guinn, T. C., & Shrum, L. J. (1997). The role of television in the construction of consumer reality. *Journal of Consumer Research, 23*(4), 278-294.
- Office of National Drug Control Policy. (n.d.). Drug-free communities support program Retrieved July 8, 2015, from <https://www.whitehouse.gov/ondcp/grants>
- Osgood, D. W., Ragan, D. T., Wallace, L., Gest, S. D., Feinberg, M. E., & Moody, J. (2013). Peers and the Emergence of Alcohol Use: Influence and Selection Processes in Adolescent Friendship Networks. *Journal of Research on Adolescence: the official journal of the Society for Research on Adolescence, 23*(3). doi: 10.1111/jora.12059
- Parker-Pope, T. (2012). The kids are more than all right. Retrieved July 8, 2015, from http://well.blogs.nytimes.com/2012/02/02/the-kids-are-more-than-all-right/?_r=0
- Parker, H. (2005). Normalization as barometer: Recreational drug use and the consumption of leisure by young Britons. *Addiction Research & Theory, 13*(3), 205-215.
- Pasch, K. E., Komro, K. A., Perry, C. L., Hearst, M. O., & Farbakhsh, K. (2007). Outdoor alcohol advertising near schools: What does it advertise and how is it related to intentions and use of alcohol among young adolescents? *Journal of Studies on Alcohol and Drugs, 68*(4), 587-596.

- Patrick, M. E., Schulenberg, J. E., Martz, M. E., Maggs, J. L., O'Malley, P. M., & Johnston, L. D. (2013). Extreme binge drinking among 12th-grade students in the United States: prevalence and predictors. *JAMA Pediatrics*, 167(11), 1019-1025. doi: 10.1001/jamapediatrics.2013.2392
- Pauly, P. J. (1994). Is Liquor Intoxicating? Scientists, Prohibition, and the Normalization of Drinking. [Article]. *American Journal of Public Health*, 84(2), 305-313.
- Pechmann, C., Levine, L., Loughlin, S., & Leslie, F. (2005). Impulsive and self-conscious: Adolescents' vulnerability to advertising and promotion. *Journal of Public Policy and Marketing*, 24(2), 202-221.
- Propp, V. (1968). *Morphology of the Folktale*. Austin, TX: University of Texas Press.
- Quigley, B. M., & Collins, R. L. (1999). The modeling of alcohol consumption: a meta-analytic review. *Journal of Studies on Alcohol*, 60(1), 90-98.
- Ross, C. S., Maple, E., Siegel, M., Dejong, W., Naimi, T. S., Ostroff, J., . . . Jernigan, D. H. (2014a). The Relationship Between Brand-Specific Alcohol Advertising on Television and Brand-Specific Consumption Among Underage Youth. *Alcoholism: Clinical and Experimental Research*, 38(8), 2234-2242. doi: 10.1111/acer.12488
- Ross, C. S., Ostroff, J., & Jernigan, D. H. (2014b). Evidence of underage targeting of alcohol advertising on television in the United States: lessons from the Lockyer v. Reynolds decisions. *Journal of Public Health Policy*, 35(1), 105-118. doi: 10.1057/jphp.2013.52

- Rowland, B., Toumbourou, J. W., & Livingston, M. (2015). The association of alcohol outlet density with illegal underage adolescent purchasing of alcohol. *Journal of Adolescent Health, 56*(2), 146-152. doi: 10.1016/j.jadohealth.2014.08.005
- Russell, C., & Puto, C. (1999). Rethinking Television Audience Measures: An Exploration into the Construct of Audience Connectedness. *Marketing Letters, 10*(4), 393-407. doi: 10.1023/a:1008170406363
- Russell, C. A., & Russell, D. W. (2009). Alcohol Messages in Prime-Time Television Series. *Journal of Consumer Affairs, 43*(1), 108-128. doi: 10.1111/j.1745-6606.2008.01129.x
- Russell, C. A., Russell, D. W., & Grube, J. W. (2009). Nature and impact of alcohol messages in a youth-oriented television series. [Article]. *Journal of Advertising, 38*(3), 97-111.
- Sargent, J. D., Wills, T. A., Stoolmiller, M., Gibson, J., & Gibbons, F. X. (2006). Alcohol use in motion pictures and its relation with early-onset teen drinking. *Journal of Studies on Alcohol, 67*(1), 54-65.
- Shrum, L. J., O'Guinn, T. C., Semenik, R. J., & Faber, R. J. (1991). Process and effects in the construction of normative consumer beliefs: The role of television. In R. H. Holman & M. R. Solomon (Eds.), *Advances in consumer research* (pp. 755-763). Provo, UT: Association of Consumer Research.
- Silverstone, R. (1987). Narrative strategies in television science. In J. Curran, A. Smith & P. Wingate (Eds.), *Impacts and influences: essays on media power in the twentieth century* (pp. 291-330). London: Methuen.

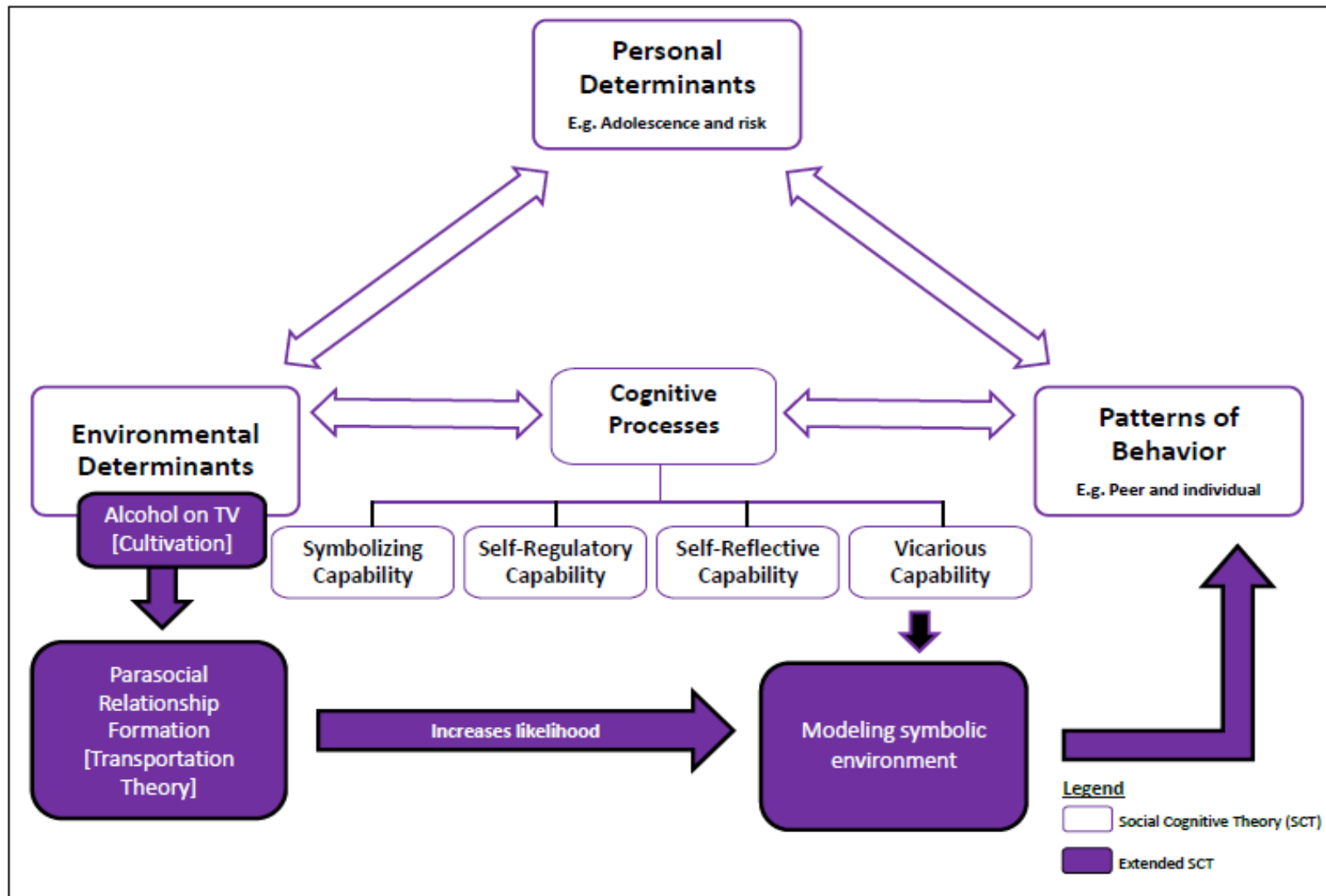
- Smith, K. C., Cukier, S., & Jernigan, D. H. (2013). Regulating Alcohol Advertising: Content Analysis of the Adequacy of Federal and Self-Regulation of Magazine Advertisements, 2008-2010. *American Journal of Public Health*. doi: 10.2105/ajph.2013.301483
- Smith, L. A., & Foxcroft, D. R. (2009). The effect of alcohol advertising, marketing and portrayal on drinking behaviour in young people: Systematic review of prospective cohort studies. *BMC Public Health*, 9(51).
- Snyder, L. B., Milici, F. F., Slater, M., Sun, H., & Strizhakova, Y. . (2006). Effects of alcohol advertising exposure on drinking among youth. . *Archives of Pediatrics & Adolescent Medicine*, 160(1).
- Stockwell, T., & Gruenwald, P. (2004). Controls on the physical availability of alcohol. In N. Heather & T. Stockwell (Eds.), *The essential handbook of treatment and prevention of alcohol problems*. England: John Wiley & Sons Ltd.
- Strasburger, V. C., American Academy of Pediatrics. Council on, C., & Media. (2010). Policy statement--children, adolescents, substance abuse, and the media. *Pediatrics*, 126(4), 791-799. doi: 10.1542/peds.2010-1635
- Strasburger, V. C., Fuld, G. L., Mulligan, D. A., Remer Altmann, T., Brown, A., Christakis, D. A., . . . O'Keefe, G. (2009). Policy statement--Media violence. *Pediatrics*, 124(5), 1495-1503. doi: 10.1542/peds.2009-2146
- Sturdevant, M. S., & Spear, B. A. (2002). Adolescent psychosocial development. *Journal of the American Dietetic Association*, 102(3), S30-S31.
- Substance Abuse and Mental Health Services Administration [SAMHSA]. (2014). Results from the 2013 National Survey on Drug Use and Health: Summary of

- National Findings *NSDUH Series H-48*. Rockville, MD: Substance Abuse and Mental Health Services Administration.
- Sznitman, S. R., Kolobov, T., Bogt, T. t., Kuntsche, E., Walsh, S. D., Boniel-Nissim, M., & Harel-Fisch, Y. (2013). Exploring substance use normalization among adolescents: A multilevel study in 35 countries. *Social Science & Medicine*, 97(0), 143-151. doi: <http://dx.doi.org/10.1016/j.socscimed.2013.08.038>
- Tanski, S. E., McClure, A. C., Li, Z., Jackson, K., Morgenstern, M., Li, Z., & Sargent, J. D. (2015). Cued recall of alcohol advertising on television and underage drinking behavior. *JAMA Pediatrics*, 169(3), 264-271. doi: 10.1001/jamapediatrics.2014.3345
- Treno, A. J., Grube, J. W., & Martin, S. E. (2003). Alcohol availability as a predictor of youth drinking and driving: A hierarchical analysis of survey and archival data. *Alcoholism: Clinical and Experimental Research*, 27(5), 835-840. doi: 10.1097/01.alc.0000067979.85714.22
- U.S. Department of Health and Human Services. (2007). The surgeon general's call to action to prevent and reduce underage drinking: U.S. Department of Health and Human Services, Office of the Surgeon General.
- U.S. Department of Justice. (n.d.). Program summary. Enforcing underage drinking laws Retrieved July 8, 2015, from <http://www.ojjdp.gov/programs/ProgSummary.asp?pi=17>
- Villani, S. (2001). Impact of media on children and adolescents: a 10-year review of the research. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40(4), 392-401. doi: 10.1097/00004583-200104000-00007

- Wagner, M. K. (2001). Behavioral characteristics related to substance abuse and risk-taking, sensation-seeking, anxiety sensitivity, and self-reinforcement. *Addictive Behaviors, 26*(1), 115-120.
- Wallack, L., Grube, J. W., Madden, P. A., & Breed, W. (1990). Portrayals of alcohol on prime-time television. *Journal of Studies on Alcohol, 51*(5), 428-437.
- Whelan, R., Conrod, P. J., Poline, J.-B., Lourdusamy, A., Banaschewski, T., Barker, G. J., . . . Garavan, H. (2012). Adolescent impulsivity phenotypes characterized by distinct brain networks. [10.1038/nn.3092]. *Nat Neurosci, 15*(6), 920-925. doi: <http://www.nature.com/neuro/journal/v15/n6/abs/nn.3092.html#supplementary-information>
- Wigston, D. (2001). Narrative analysis. In P. J. Fourie (Ed.), *Media studies Volume two: content, audiences and productino* (Vol. 2). Lansdowne, South Africa: Juta Education.
- Winpenny, E. M., Marteau, T. M., & Nolte, E. (2014). Exposure of children and adolescents to alcohol marketing on social media websites. *Alcohol and Alcoholism, 49*(2), 154-159. doi: 10.1093/alcalc/agt174
- Wood, M. D., Read, J. P., Mitchell, R. E., & Brand, N. H. (2004). Do parents still matter? Parent and peer influences on alcohol involvement among recent high school graduates. *Psychology of Addictive Behaviors, 18*(1), 19-30. doi: 10.1037/0893-164x.18.1.19
- Xuan, Z., Blanchette, J. G., Nelson, T. F., Nguyen, T. H., Hadland, S. E., Oussayef, N. L., . . . Naimi, T. S. (2015). Youth Drinking in the United States: Relationships

With Alcohol Policies and Adult Drinking. *Pediatrics*. doi: 10.1542/peds.2015-0537

Figure 1.1. Conceptual Model: Extended Social Cognitive Theory



Chapter 2: Methodological Considerations

The goal of my dissertation is to explore ways in which alcohol use on TV can be monitored and to consider the theoretical mechanisms through which exposure to these portrayals may influence drinking behavior. In this chapter I will detail the methods of each of the three studies in my dissertation, whose objectives are as follows:

Study 1: Develop a methodology to capture 10 years of alcohol-use portrayals on TV programs most popular among youth;

Study 2: Document the alcohol portrayals on TV programs most popular among youth between 2002 and 2012;

Study 3: Explore the theoretical underpinnings of the relationship between exposure to TV portrayals of alcohol use and behavior change within an environment of normalized alcohol use.

Sampling: Study 1

Study 1, a pilot study, explored the utility and feasibility of a sampling strategy that focused on the television (TV) programming most popular among youth. Nielsen Inc. collects data on media habits in the U.S., including the number of viewers, and their demographic information, for all TV programs. In standard reports, Nielsen documents viewing habits by age group, including the grouping of viewers 12 to 20 years old. This was the age group I was most interested in, since this is the age category used by the Substance Abuse and Mental Health Services Administration when they report on underage drinking (SAMHSA, 2014).

I next had to decide from which TV stations I would sample TV programs. Because viewership of TV programs on network TV far eclipses viewership of any other TV stations (Nielsen Inc., New York, NY¹), I decided to limit my selection criteria to only those programs appearing on broadcast networks and those airing during primetime, 8-11pm. I chose to eliminate the CW broadcast network as its viewership is lower than that of the other four main networks -- ABC, CBS, NBC, and FOX. My sample came from the highest rated programs, on the highest rated networks, thus capturing a substantial proportion of the total youth audience.

A further honing of the selection criteria was to choose the types of TV programs to sample. Since I was interested in the potential for behavior modeling among viewers, I used Transportation Theory (Green & Brock, 2000) to guide my decision that only TV shows with narrative content, e.g., dramas, situation comedies, and mysteries, rather than sports programming or newscasts that do not provide a fictional model of daily life, would be included. Reality shows were also excluded since they only model certain segments of daily life. Furthermore, this same literature reports that the more time viewers spend with TV characters, the more likely they are to model their behaviors. This provided the rationale for excluding feature films, given that the narrative begins and ends in one sitting.

In its raw form, Nielsen data report the average number of viewers per TV episode who watched the episode live plus the number who watched the TV program on DVRs within seven days of its original broadcast date, excluding any viewing on streaming services over the internet. We calculated the average viewing audience across

¹ © 2012 The Nielsen Company. Ratings and other data contained herein are the copyrighted property of The Nielsen Company.

all regularly occurring episodes (excluding single-broadcast specials, for example holiday specials).

For the pilot study I decided that a feasible number of TV programs per year to sample would be five. I wanted to look at 10 years of data, similar to the last known work of this kind by Wallack et al. (1990), and started with the most recent year for which there were data (2012) and worked backward to 2002. For each of these years I found the five TV programs with the highest number of youth viewers (age 12-20 years) over the entire season. I excluded all programs on the CW network, since this channel draws the fewest viewers compared to other network channels, and all programs that were not narrative. This sampling frame generated a total of 146 unique main characters on 50 episodes of 50 total TV programs over 10 years. We used the content analysis by Scharrer (2012), who also coded by character only, to justify our sampling frame. Scharrer coded portrayals of masculinity on two episodes from each of 24 programs over 50 years, generating a total of 210 main characters. In our sample, there were 18 unique programs, and 13 programs that repeated over the years. Twenty-one of the 50 programs were animated satire.

To enable me to pilot a coding methodology, I then randomly chose one episode from each of the five programs in each of the 10 years. This process would also enable me to test basic feasibility of a larger study, by requiring me to explore whether TV episodes that were up to 10 years old would be accessible for viewing or if only certain episodes would be available.

Sampling – Study 2 and Study 3

I used the same sampling strategy and same 50 TV programs from Study 1 for Studies 2 and 3 as I was able to find all the TV episodes on Amazon Instant, Netflix, Hulu+ or a purchased DVD, except for a number of *Simpsons* episodes that I had to stream via online streaming websites. Since the two last studies needed a larger sample size, I used *sweeps seasons* as a way to identify the episodes I would code. Manganello et al. (2008) found that coding three episodes in one season is sufficient to be representative of the entire season, for program-level analysis. Sweeps seasons are the four times during the year when TV program ratings are gathered and advertising rates for those programs are determined. TV writers therefore tend to design the episodes airing during this time to attract the largest audiences, using story lines and guest stars that will be highly anticipated. The sweeps seasons occur in November, February, May and July, with July attracting the fewest viewers compared to the rest. For these reasons, and reasons of feasibility, it seemed reasonable to choose one random episode for each TV program for each year, from each of the three highest-rated sweeps seasons. This resulted in 15 episodes to be coded per year for each of 10 years for a total of 150 episodes for the content analysis.

Development of codebook and rulebook – Study 1

Many TV content analyses to date have used the scene as the level analysis of TV programs, including the seminal study by Wallack et al. (1990), which used both the scene and the character as units of analysis. It has recently become more difficult to identify scene changes on TV programs because of the proliferation of on-demand TV

streaming through online sources such as Netflix and iTunes. When using these sources to view TV programs, there are no commercial interruptions, which in the past would have signified natural breaks in scenes and made scene definition more straightforward. For this reason, we decided to use the character as the main unit of analysis, with a number of variables coded by episode.

We used the coding techniques described by Wallack et al (1990) to set up the skeleton of our codebook in order to capture the main alcohol use variables and categories of alcohol-related activities, by major character. A major character was defined as someone who appeared on >85% of episodes during the season, as per imdb.com. We recorded the demographics of all major characters: the character's name, gender, age, ethnicity and profession. Again, we verified this information on imdb.com. All other characters were considered minor characters and any alcohol acts they performed were classified as background acts and counted by episode, rather than by character.

We used the following categories to identify alcohol acts: 1) *visual foreground acts*, which were major characters engaged with alcohol in some way, and in which we recorded the type of drink, number of drinks, consequences of use to the character (positive, negative, mixed or neutral), and consequences of use to those around the character (positive, negative, mixed or neutral); 2) *verbal foreground acts*, which were major characters talking about alcohol, and in which we recorded which characters spoke about alcohol in some way, capturing the conversation verbatim as well as coding the tone of the discussion (positive, negative, mixed or neutral); 3) *visual background acts*, which was a count of the number of alcohol paraphernalia in the episode, and in which

we counted items such as wine bottles, wine glasses (when not being used), red solo cups, signs for alcohol in a bar or elsewhere, alcohol advertisements and the like, describing the items and counting the total number per episode (although when a character consumed wine in a wine glass and the bottle was visible, we counted only the bottle as paraphernalia since the glass was counted as part of consumption); and 4) *minor background acts*, which was a count of the number of minor characters engaged in an alcohol act or characters discussing alcohol, where one count was one act or discussion by one person in one scene, and we described each occurrence and counted the total number per episode. We also recorded the number of violent or illegal acts related to alcohol use, e.g., underage drinking or a character being forced to drink (see Appendix A for Study 1 Codebook).

We used STATA version 11.2 (StataCorp LP, College Station, TX) to model the calculations of linear regressions to look at trends of alcohol use over time. However, this was a testing exercise since our sample was too small to reflect actual trends.

Development of codebook and rulebook – Study 2 and Study 3

On completion of Study 1, we recognized that we needed to code not only by character but by scene as well. This was in order to be able to compare our results with the results of Wallack et al. (1990), who coded both by character and by scene, and because we needed to capture more of the context and consequences of alcohol use. We also found that we needed to define alcohol acts more specifically, for example, instead of counting group drinking as a single act, as we did in Study 1, we would need to be

more precise and count individual characters drinking, as part of the group, again in order to make proper comparisons with Wallack et al.

We also added coding categories to collect more demographic information about each character in the foreground of a scene, and not simply the main characters in the foreground. These foreground characters could be occasional or one-time characters who were the main focus of the scene or who had speaking roles but were not necessarily main characters. If these characters were attractive or sympathetic, then Social Cognitive theory would lead us to believe that they will be more influential role models (Mo Bahk, 2001; Quigley & Collins, 1999), and for this reason we elected to include them in the larger studies.

In addition to the character's name, gender, age, and ethnicity, all collected in Study 1, we also identified the character's relative importance on the program (main character, appearing in >85% of episodes; occasional character, appearing in <85% of episodes; one-time character, usually a special guest star appearing only in one episode) for studies 2 and 3. We gathered this information from imdb.com and character Wiki pages. Characters who appear on most episodes are the characters with whom viewers will be more likely to form relationships. These parasocial relationships are first steps towards modeling the character's behavior (Giles, 2012; Horton & Wohl, 1956).

We also recorded each main character's typology (hero, helper, villain or princess), another addition to the coding, as per the categories identified by Vladimir Propp (1968). We used four of the seven typologies by Propp as these are the typologies most encountered on TV programs today (Wigston, 2001). *Hero* characters (there may be more than one of each type of character on every show) are usually the subject of the TV

program and the character or characters around whom the storyline revolves, for example, Homer Simpson on *The Simpsons*. The *helper* characters appear on many if not all episodes and are essentially the hero's sidekicks. These characters help move the plot forward, but they are in some way in the sideline of the plot. On the TV program *House*, the character Dr. Wilson supports the hero, Dr. Gregory House. The *villain* character(s) stands in opposition to the *hero*, for example, Mr. Burns on *The Simpsons*. Finally, the *princess* character can be a man or a woman who represents the reward in the story. For example, in the first few seasons of *The Big Bang Theory*, the character Penny was sought after by Leonard and other suitors. Her role was to be the reward for the *heroes*. We identified character typologies through character and program descriptions on imdb.com and program Wiki pages (e.g. familyguy.wikia.com). The websites provided a short synopsis of the TV program, for the particular season, and described characters so that we could map character traits with those described by Propp to assign typologies.

In Study 1, we recorded each character's profession as a proxy for socioeconomic status (SES). We were not able to reliably translate profession to SES and so we altered the way we recorded this variable for studies 2 and 3. We used The Gilbert-Kahl Model of the Class Structure (Gilbert, 2015) to identify class level of each character. Upper class, upper-middle class, middle class, working class, working poor and underclass were distinguished by the family's primary source of income. Again, we used imdb.com and character wiki pages to identify character occupation.

We improved on the definitions of a drinking act for studies 2 and 3 by using the same definitions as Wallack et al. (1990). An *alcohol act* was any *preparation to drink* or

ingestion of alcohol. Preparing to drink² included ordering, pouring, accepting, holding a drink (but not ingesting), having a drink nearby, or carrying a closed single serve alcohol container. A drink ingestion was a count of the number of times a character put his or her mouth to the alcohol container and swallowed the beverage, including number of sips. We counted the number of alcohol acts for any character appearing in the foreground of the scene.

For every alcohol act by a foreground character, we coded the start time of the alcohol act, the number of prepared to drink acts and the number of ingestions of alcohol. In the few instances where the character was depicted as intoxicated but we did not see how many drinks he or she consumed ($n = 7$ out of the total $n = 63$ depictions of intoxication over the 10-year period), and there were no empty containers next to the character indicating the number consumed, we used a count of two prepared to drink acts, to be conservative. If there was a multi-pack (case), pitcher, funnel, or other container that made it difficult to identify the number of ingestions or prepared to drink acts, we used a conservative estimate and made a note of this fact. We counted the number of ingestions by foreground characters: how many times a character put the glass/container to his/her mouth to ingest the drink in the scene. We counted only the number of sips of alcohol we saw being consumed. If there were empty alcohol containers right next to the character and it could be concluded that these were consumed by the character, these drinks were counted in the prepared to drink category. If there was a cartoon depiction of a “pile” of empty containers (more than 10), we used 10 to be conservative, as prepared

² The “prepared to drink” category name was used by Wallack et al., and others, and so we used it here to remain consistent in terminology. Some others changed this variable name to “implied drinking acts” which may explain the meaning of the variable more clearly.

to drink, since we did not see the consumption. If a number was unclear, we counted only the ingestions we could see.

We coded whether the character was intoxicated, determined by any verbal or visual cues of intoxication for the viewer, for example, slurring words, trouble walking, or a mention that the person is drunk. If the character was clearly hung over but the viewer did not see the actual drinking, this was still counted as intoxication. In this case, a comment was added to the code that the person was hung over.

We also coded the reason the character was drinking (socializing, celebrating, as a reward, to accompany a meal, to suppress problems, for relaxation, to socialize with work colleagues [at work], to facilitate a sexual relationship, to facilitate another kind of relationship, and for no specific reason other than keeping the character occupied), the consequences of drinking to the character and to those around the character (health consequences, positive or negative; social consequences, positive or negative; mixed consequences; and no consequences at all). We also recorded a general description of the alcohol act.

We coded alcohol acts by scene for studies 2 and 3, as described above. We based our definition of a scene on definitions used in other content analyses (Atkinson, Elliott, Bellis, & Sumnall, 2011; Breed & De Foe, 1981; Breed, De Foe, & Wallack, 1984; De Foe, Breed, & Breed, 1983; Wallack, Grube, Madden, & Breed, 1990). These studies used the entry and exit of main characters, a change in location, or an interruption of action as scene markers. However, we found we needed to expand upon these definitions in order to ensure inter-coder reliability. Abduraman et al. (2012) discuss the “ambiguous” (p. 175) nature of TV scene definitions and as such, we created a

comprehensive set of scene marker guidelines that included definitions from the TV and Film literature as well (Abduraman, Berrani, & Merialdo, 2012; du Plooy, 2001).

We defined a scene as all actions occurring in the same location, e.g., the same room in a house, in a bar, in a car. Any action before a cut in the scene, or before the camera panned away from the scene would be considered as part of one scene. If the camera panned away from the scene, to a different location, and then returned to the original scene, these would be considered different scenes. The opening and closing credits of a TV program were each considered separate scenes, even though each may or may not have included a number of scenes. If a character was watching TV, the scene on TV was counted as part of the original character's scene. When showing a separate scene between two people on the phone, both were counted as part of the same scene. Flashbacks (or flash-forwards) were counted as separate scenes. If the flashback had separate scenes, those were counted as separate as well. When TV programs recapped the last episode, that recap was counted as a separate scene.

The following were some common situations that helped us identify whether or not to code a new scene, based on the aforementioned literature: New people + new location = different scene; Same people + different interior location (e.g., living room to kitchen) = same scene; New people + same location = same scene, e.g., new people entering the scene; Different people + same interior/exterior location but out of line of sight of the viewer = new scene; Uninterrupted shot (tracking a character) but in a completely new location (i.e., not just tracked into different open concept room, rather from inside the house to outside the house) = new scene. Although we were not using the

scene as a measurement variable since we only coded alcohol-involved scenes, maintaining reliable scene identification helped us keep our coding organized.

For each scene with an alcohol act in the foreground or background, we recorded the start and end times of the scene, the location (public – bar, public – restaurant, public – outside, public – other, private – work, private -- home / inside, private – school, private – other), and provided a general description of the scene. We counted the number of beverage acts by characters in the foreground of the scene: the number of preparations to drink alcohol, the number of ingestions of alcohol and the number of non-alcoholic drinks that were prepared or ingested. We counted the proportion of people in the foreground of the scene who were involved with alcohol: the total number of people in the foreground of the scene, the number of people preparing to drink alcohol, the number ingesting alcohol, and the number of people drinking non-alcoholic beverages.

We recorded if there was or was not an illegal or violent act related to alcohol use in the scene, for example, underage drinking or an act of violence by a character who had been drinking. We counted and described any alcohol paraphernalia in the scene. As described earlier, only objects that were not counted as part of a count of consumption were included here. We recorded any discussions about alcohol and coded the tone of discussion as positive, negative, mixed or neutral, and recorded the conversation, verbatim. The tone of the discussion was recorded as per the tone of the speaker. For example, if the character Homer Simpson was jubilant in tone, telling his wife Marge that he drank 20 cans of beer and he felt great, we recorded the tone of the discussion as positive.

We captured any alcohol acts in the background of a scene or performed by background characters. This included any alcohol acts by groups of people in a bar, at weddings, or in any complex group scenes, where the alcohol was ingested or prepared to be ingested as part of the actions of a group that occurred in the background. When it was possible to easily count the number of people consuming or preparing to consume, we counted the preparations and ingestions of alcohol in the background. When the scene was complex and it was difficult to count individuals because of the large number of people or the rapid pacing of the scene, we used a conservative count of two preparations to drink. Otherwise, we counted the number of preparations to drink and ingestions of alcohol in the background of the scene. This differed from Study 1 where we counted background drinking as one drinking occasion and tallied the number of such occasions by episode (see Appendix A for the codebook for studies 2 and 3).

In order to make sure we did not double count any alcohol acts by character, when a character prepared to drink or ingested the same alcoholic beverage over two scenes, we only counted the alcohol act once. The number of alcohol acts by character, therefore, was not equal to the number of scenes with alcohol acts or the number of alcohol acts by scene. When we coded by scene, if a character was drinking the same drink in two different scenes, we coded an alcohol act in each scene since we were interested in describing the components of each scene that included an alcohol act.

We used linear regression to estimate the change in alcohol acts per hour, by year and by sweeps season by year. Chi-square tests of independence were used to test for associations between demographic variables and drinker status, unless the expected value

in any of the cells was less than five in which case I used Fisher's Exact Test (Rosner, 2011).

Coder training and reliability – Study 1

Through seven iterations of the codebook, two coders (student PI and another student) watched eight TV episodes not part of the study sample, coding all alcohol acts by character. We discussed coding variables and made changes to the rules of coding until we agreed we were ready to code independently. Using ten more TV episodes not part of the study sample, we coded independently and then came back together after coding each episode to compare results. We continued this way through seven iterations of the codebook and until coding agreement was at 90% or above for all variables. At this point we started coding the study sample.

As Study 1 was a pilot study, one goal was training on content analysis coding. As such, two coders (student PI and another student) double-coded all 50 episodes. To assess and ensure reliability we calculated Cohen's Kappa using STATA version 11.2 (StataCorp LP, College Station, TX) for all variables, by character, three times throughout the coding process: at the start of coding, after coding 25 episodes, and then at the end of coding. We calculated Kappa scores using the independent coding results before coming together to discuss coding results. Kappa scores exceeded 0.7 for all but two variables: socioeconomic status and intoxication status. As a result we did not report on these variables. We initially entered all coding data into Excel datasheets, and then once data collection was complete, we transferred all data into an Access database for analysis.

Coder training and reliability – Study 2 and Study 3

In order to learn the rules for coding, two coders (student PI and another student) practiced coding episodes not part of the study sample. We came together to compare results and discuss differences. We continued this process through multiple iterations of the codebook and rulebook until we were both satisfied that we were capturing all the alcohol-use variables and reached 95% agreement or above on all variables. At this point we started coding the study sample.

We calculated Cohen's Kappa in order to assess and ensure reliability. I calculated the first Kappa score after we both coded the first 15 episodes (year 1) of the study sample. I continued coding the sample until the end of the 15 episodes of year 5 of the sample. My co-coder coded the 15 episodes of year 5 at which point I calculated the second round of Kappa scores. Again, I resumed coding and we used the same process to calculate Cohen's Kappa for a third time at the end of year 10 of the sample. Kappa scores at all three time points ranged from 0.70 to 0.95 for all but one variable: number of items of alcohol paraphernalia, which we subsequently dropped from the analysis. I entered all data into Excel spreadsheets and then transferred it into STATA for analysis.

References

- Abduraman, A. E., Berrani, S. A., & Merialdo, B. (2012). TV program structuring techniques. A review. In Y. Kompatsiaris, B. Merialdo & S. Lian (Eds.), *TV content analysis: Techniques and applications* (pp. 157-179). Boca Raton, FL: Taylor & Francis Group.
- Atkinson, A., Elliott, G., Bellis, M., & Sumnall, H. R. (2011). Young people, alcohol and the media. York, UK: Joseph Rowntree Foundation.
- Breed, W., & De Foe, J. R. (1981). The Portrayal of the Drinking Process on Prime-Time Television. *Journal of Communication*, 31(1), 58-67. doi: 10.1111/j.1460-2466.1981.tb01205.x
- Breed, W., De Foe, J. R., & Wallack, L. (1984). Drinking in the mass media: a nine-year project. *Journal of Drug Issues*, 14(4), 655-664.
- De Foe, J. R., Breed, W., & Breed, L. A. (1983). Drinking on television: A five-year study. *Journal of Drug Education*, 13(1), 25-38.
- du Plooy, G. M. (2001). Text analysis. In P. J. Fourie (Ed.), *Media Studies. Content, Audiences and Production* (Vol. two, pp. 3-58). Landsdowne, South Africa: Juta Education.
- Gilbert, D. L. (2015). Social class in America *The American class structure in an age of growing inequality* (9th ed., pp. 1-20). Thousand Oaks, CA: Sage Publications, Inc.
- Giles, D. (2012). Parasocial relationships: current directions in theory and method. In H. Bilandzic, G. Patriarche & T. P.J. (Eds.), *The social use of media* (pp. 161-176). Chicago, IL: Intellect, The University of Chicago Press.

- Green, M. C., & Brock, T. C. (2000). The role of transportation in the persuasiveness of public narratives. *Journal of Personality and Social Psychology*, 79(5), 701-721.
- Horton, D., & Wohl, R. R. (1956). Mass communication and para-social interaction: observations on intimacy at a distance. *Psychiatry*, 19(3), 215-229.
- Manganello, J., Franzini, A., & Jordan, A. (2008). Sampling television programs for content analysis of sex on TV: How many episodes are enough? *Journal of Sex Research*, 45(1), 9-16. doi: 10.1080/00224490701629514
- Mo Bahk, C. (2001). Perceived realism and role attractiveness in movie portrayals of alcohol drinking. *American Journal of Health Behaviors*, 25(5), 433-446.
- Propp, V. (1968). *Morphology of the Folktale*. Austin, TX: University of Texas Press.
- Quigley, B. M., & Collins, R. L. (1999). The modeling of alcohol consumption: a meta-analytic review. *Journal of Studies on Alcohol*, 60(1), 90-98.
- Rosner, B. (2011). *Fundamental of Biostatistics* (7th ed.). Boston, MA: Brooks / Cole.
- Scharrer, E. (2012). More than 'just the facts'?: Portrayals of masculinity in police and detective programs over time. *Howard Journal of Communications*, 23(1), 88-109. doi: 10.1080/10646175.2012.641882
- Substance Abuse and Mental Health Services Administration [SAMHSA]. (2014). Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings *NSDUH Series H-48*. Rockville, MD: Substance Abuse and Mental Health Services Administration.
- Wallack, L., Grube, J. W., Madden, P. A., & Breed, W. (1990). Portrayals of alcohol on prime-time television. *Journal of Studies on Alcohol*, 51(5), 428-437.

Wigston, D. (2001). Narrative analysis. In P. J. Fourie (Ed.), *Media studies Volume two: content, audiences and productino* (Vol. 2). Lansdowne, South Africa: Juta Education.

Chapter 3: Content analysis of alcohol portrayals on popular TV shows among youth, 2002-2012: a pilot study

Abstract

The purpose of this pilot study was to determine the feasibility of completing a content analysis of alcohol portrayals on TV over 10 years; set up a coding scheme to record alcohol use by character demographics; and describe alcohol portrayals on TV programs most popular among 12-20 year olds to determine whether and how alcohol-related content on TV changed over the last decade. Through an iterative process, we created a coding scheme to capture elements of drinking behavior and the drinking environment by character in a random sample of episodes from five US TV programs with the largest youth audiences over ten seasons from 2002 to 2012. We used two coders to double code all episodes and tested coder agreement using Cohen's Kappa. We were able to capture all alcohol-related content by character, using our codebook and rulebook. All but two variables—socioeconomic status and intoxication status—met the standard for coder agreement. We used linear regression to test for alcohol-use trends over time. We found a modest increase in drinking over the 10 year study period, indicative of a possible trend; however, because of the small sample size, we were unable to draw firm conclusions. Monitoring alcohol portrayals on TV programs popular among youth may help in the development of strategies to reduce the impact of such media on youth drinking. Partnerships with the creative community may engender changes regarding alcohol use in programming content popular among youth.

Introduction

Alcohol and Youth

Excessive alcohol use is responsible for 4,300 deaths per year among youth in the United States (Centers for Disease Control and Prevention, 2015), as well as for injury and risk of brain damage and for scholastic and social problems (Masten, Faden, Zucker, & Spear, 2008). Approximately 24% of US youth (9.3 million) aged 12-20 reported drinking alcohol in the past 30 days, with no significant difference in the rates of current drinking between males (24.7%) and females (24.0%) (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014). Approximately 15% (5.9 million) identified as binge drinkers, defined here as 5+ drinks in one sitting for both males and females at least once in the past 30 days. For youth, alcohol is still the leading drug of choice, though current alcohol use (SAMHSA), as well as binge drinking (Johnston, O'Malley, Bachman, & Schulenberg, 2013), have decreased since the beginning of this century (Johnston, O'Malley, Miech, Bachman, & Schulenberg, 2015).

Alcohol in the Media. One vector influencing youth drinking is exposure to alcohol messages in the media: for example, alcohol advertising {Anderson, 2009 #120}. Other research has found a dose-response relationship between adolescent exposure to alcohol use in movies and early initiation of drinking (Hanewinkel et al., 2014; Sargent, Wills, Stoolmiller, Gibson, & Gibbons, 2006) and an association between that exposure and adolescent binge drinking (Hanewinkel et al., 2012). Researchers have also found that alcohol brand appearances in popular movies increased by an average of 5.2 appearances per year between 1996 and 2009, reaching a total of 140 appearances in 2009 (Bergamini, Demidenko, & Sargent, 2013).

Smith and Foxcroft (2009) reviewed longitudinal studies of the association between exposure to alcohol advertising, marketing and the portrayal of alcohol use, and self-reported alcohol use among youth. Seven studies fit the inclusion criteria for this systematic review and included 13,000 subjects. Results demonstrated a positive association between exposure to alcohol-related media messages and an increased likelihood of drinking among youth. In a more recent study, Grenard, Dent, and Stacy (2013) found that 7th grade students exposed to alcohol ads on popular TV programs and liked the ads were more likely to report alcohol-related problems by 10th grade.

Alcohol Expectancies. Positive associations, or positive alcohol expectancies, have also been linked with increased drinking in both the short term (Grube & Agostinelli, 1999) and long term (Patrick, Wray-Lake, Finlay, & Maggs, 2010). Boys in 5th and 6th grades were significantly more likely to hold positive attitudes about drinking after being exposed to an experimental condition where main characters on popular TV shows were drinking, compared to a control condition where TV characters were not shown drinking (Kotch, Coulter, & Lipsitz, 1986). Gordon and colleagues (2011) also found positive associations between involvement with and awareness of alcohol marketing and intentions to drink and drinking behaviors. Researchers examining the relationship between adolescent exposure to alcohol use in the movies and subsequent drinking behavior have concluded that established psychological and interpersonal predictors of alcohol use such as expectancies and media-derived drinker prototypes as well as peer use of alcohol mediate the effects of this exposure on youth alcohol use (Dal Cin et al., 2009).

Positive association between exposure to alcohol-related media and drinking behavior is of concern during a period when youth are spending increasing amounts of time with multiple forms of media. The most recent available data, collected by the Kaiser Family Foundation, found that, in 2009, US youth aged 8-18 spent an average of 7 hours and 38 minutes per day with media (an increase of 1 hour 18 minutes per day from 2004), the majority of which was watching TV content (4 hours 29 minutes per day, an increase of 38 minutes per day from 2004) (Rideout, Foehr, & Roberts, 2010). Time-shifted TV viewing allows for programs to be viewed on a self-generated schedule rather than on a fixed schedule when a program airs. Further, Netflix, On Demand services through cable providers, and other streaming media websites, as well as digital video recorders have increased opportunities and access points for watching programs that would otherwise have been missed due to scheduling.

Alcohol Use on TV. This increase in TV content viewing reflects in part the ubiquitous access to TV programming. For instance, time spent on mobile devices, a media platform allowing youth to access TV content anywhere, increased by 22% between July 2011 and July 2012 (Nielsen, 2012). Through cultivation effects, as TV content viewing increases, access to constructs portrayed on TV (e.g., crime, violence, alcohol use, etc.) becomes more accessible and acceptable (Shrum & Lee, 2012). TV programming narratives may set the stage for what viewers consider *normal* behavior.

In an early cultivation effects study in 1986, part of an ongoing research project examining 10 years of alcohol content in TV programs, alcohol content in US prime-time TV programming appeared in 64% of episodes, with 50% of episodes showing alcohol consumption (Wallack, Grube, Madden, & Breed, 1990). Although some methods of

coding changed within the 10-year span, researchers were able to compare the alcohol content of TV programming over that time. They found that the number of alcohol acts per hour of TV programming increased from 1976 (4.8) to 1984 (10.2) and then decreased in 1985 (9.1) and 1986 (7.9).

Mathios and colleagues (1998) found 2.5 alcohol incidents per hour in two weeks of primetime TV programming (one week in Fall 1994 and in one week in Spring 1995). Spanning 224 hours on four broadcast networks (ABC, CBS, NBC, FOX) in over 276 programs analyzed, 555 “alcohol incidents” were portrayed (Mathios et al., 1998). Overall, however, only 41% of programs included such an incident, meaning that the concentration of alcohol incidents was considerably higher in programs showing alcohol use.

In a study of frequency of alcohol, tobacco, and illicit drug use on the most popular primetime TV programs in the 1998-1999 TV season, Christenson and colleagues (2000) found that 71% of episodes showed alcohol use, 10% of which involved negative experiences for characters while 40% portrayed positive experiences for characters. A 2008 content analysis of three years (2004, 2005, and 2006) of popular primetime TV programs found that at least one alcoholic beverage was either shown or consumed in 51% of episodes and that alcoholic beverages were consumed in 33% of episodes (Murphy, Hether, & Rideout, 2008). Russell and Russell (2009) conducted a content analysis of alcohol content on top-rated primetime TV programs on five broadcast networks (ABC, CBS, NBC, FOX, WB) during the 2004-2005 season and found that alcohol was present either in the background or foreground in 89% of episodes.

In a study of alcohol content in a single TV series, Byrd-Bredbenner (2004) examined health-related messages (HRMs), including messages about alcohol use, over nine seasons of *The Simpsons* (1989-1997). The highest number of HRMs concerned nutrition; however, the second most prevalent HRMs were related to alcohol use and were primarily (81%) providing unhealthy role modeling or poor information from a health perspective. Russell, Russell, and Grube (2009) examined alcohol content over three seasons (2003, 2004, and 2005) in the series *The O.C.* and found that episodes contained an average of four minutes of alcohol depictions.

Missing from the literature are studies focused on TV programming popular among youth. Only one study has looked at alcohol content and youth over a substantial period of time (9 years), but the study looked only at a single TV program (Byrd-Bredbenner, 2004). Knowing the nature of alcohol content on this subset of TV programs is critical to assessing the impact of programming on youth alcohol use. To fill this gap in the literature, we undertook an exploratory pilot study to look at the alcohol-related content on TV programs (scripted TV) most popular among youth, over a 10-year period. Our aims were to: (1) establish the feasibility of completing a content analysis that would adequately capture patterns of alcohol portrayals on entertainment television over a 10-year period; (2) set up a coding scheme that would allow us to record alcohol use by character demographics; and (3) describe alcohol portrayals on entertainment TV programs most popular among 12-20 year olds to determine whether and how content was changing over time.

Materials and Methods

Sample

We used Nielsen ratings data (Nielsen Inc., New York, NY) to identify the five entertainment TV programs with the highest number of 12-20 year-old viewers airing during primetime in ten television seasons from 2002/2003 to 2011/2012.³ We limited the sample to programs shown on four broadcast networks—ABC, CBS, NBC and FOX—as these networks are most accessible to viewers and, thus, generally have the largest audiences (Nielsen Inc., New York, NY). One episode from each of the five programs for each of 10 years was selected using a random number table, generating a total of 50 episodes and 146 main characters for the content analysis. This was similar to Scharrer (2012) whose content analysis sampling frame generated 48 episodes and 210 main characters over a 50-year timeframe. TV programs were viewed through the online streaming websites Netflix, Hulu, Hulu+, and Amazon Instant, as well as via purchased DVDs.

Unlike other content analyses, we sampled TV programs based on the programs' numbers of viewers, since we wanted to capture the content to which young people were most likely to be exposed. Other more large-scale content analyses, such as Wallack et al. (1990), sampled all the TV programs shown during prime-time (8-11pm) on randomly sampled nights. During the 1970s and 1980s, when this earlier study was completed, there was not the same proliferation of TV channels that currently exists. As well, as this was a pilot study, we decided for reasons of feasibility, to focus on a small sample of TV shows that we were certain substantial numbers of young people had seen.

Development of the codebook and rulebook. The research team created a codebook to capture alcohol-related information about each main character on every TV

³ © 2012 The Nielsen Company. Ratings and other data contained herein are the copyrighted property of The Nielsen Company. Unauthorized use of this copyrighted material is expressly prohibited. Violators may be subject to criminal and civil penalties under federal law (17 USC 101 et seq.). All rights reserved.

program. As a starting point, we used the coding methodology developed by Wallack et al. (1990) to define alcohol-related activities, i.e., foreground, background, visual and verbal acts. We then added other variables, as described below. We decided to record alcohol acts by character and not alcohol acts by scene, since scene definition has become increasingly difficult. There is no longer always a need to end scenes in order to break for a commercial message, which used to be a straightforward way to identify the end of a scene. Currently, with the increasing popularity of streaming TV services such as Netflix and iTunes, scene ends and beginnings can be difficult to identify.

We defined a main character as a character who appeared in >85% of episodes in the specified season, verified through character profiles on IMDB.com. We recorded all demographic variables for each character, including gender, race, age group, and socioeconomic status (SES), coded subjectively as low, medium, or high. Similarly to previous studies, SES was measured using income, education, and occupational status including prestige of occupation (as discussed by Conger, Conger & Martin, (2010)). Besides an analysis by character, we coded presence of alcohol in a program that included alcohol use by minor characters (those appearing in <85% of episodes in that season).

Actions related to alcohol by main characters fell into three categories: (1) visual foreground acts (e.g., consuming alcohol, and the consequences of that consumption to the drinker and to those around the drinker (positive, negative, neutral, or mixed)), with one character shown drinking multiple drinks in a single scene counted as a single drinking act; (2) visual background acts (e.g., alcohol paraphernalia); and (3) verbal foreground acts and the tone of the act (positive, negative, neutral, or mixed), e.g., a

character talking about alcohol. We recorded the location of drinking and also counted violent or illegal acts related to alcohol use, as well as any instances of intoxication or forced drinking, i.e., one character forcing another character to drink.

Alcohol acts by minor characters were recorded and counted as background alcohol acts. These included any individual, even extras or crowds, talking about or using alcohol. For example, if all or nearly all of a group of people at a wedding were drinking alcohol, this counted as one background act. Details of each coding category can be found in Table 3.1. We used linear regression to estimate possible changes in the number of alcohol portrayals by year. However, knowing that our sample size was small, this statistical analysis would only serve to indicate possible trends and not be demonstrative of actual change.

Coder training and reliability. Together, two coders (authors 1 and 2) watched TV episodes not part of the study sample, coding for all required aspects by talking through each coding category, using the coding rulebook. Each coder then coded one episode independently, and the two came together to compare results. This process continued through seven iterations of the codebook and rulebook until coding agreement was at or above 90% for all variables.

To assess and ensure reliability, we calculated Cohen's Kappa using STATA version 11.2 (StataCorp LP, College Station, TX) for all variables, by character, three times throughout the coding process: at the start of coding, after coding 25 episodes, and then at the end of coding. At each stage, we calculated Kappa scores using the independent coding results before coming together to discuss coding results. We double coded all episodes and discussed any inconsistencies until we reached 100% agreement.

We initially entered all coding data into Excel datasheets, and then once data collection was complete, we transferred all data into an Access database for analysis.

Results

After completing seven iterations of the codebook and rulebook, intensive training and multiple test-coding sessions, we were able to start coding the sample. For those character variables with sufficient data, we limited our reporting to variables with Kappa scores exceeding 0.7. All but two variables—socioeconomic status and intoxication status—met the standard for coder agreement.

The total sample contained 50 TV programs; some appeared multiple times across different years: for example, *The Simpsons* appeared in 9 of 10 years, and *Family Guy* appeared in 7 out of 10 years. Animated shows made up 21 of the 50 programs across the 10-year study sample (see Table 3.2).

Demographics. The sample included 146 unique main characters from 18 different TV programs. The majority (62%, n=91) were male, and between the ages of 36 and 65 (41%, n=60). The next most common age range was 21-35 (27%, n=39), followed by 11-17 (22%, n=32) and 18-20 (3%, n=4). Five characters (3%) were not identifiable by age (these were cartoon animals); 4% were under 10 years, and there were no characters over 65 years. Eighty percent of characters were White (n = 117), 9% (n = 13) Black, and 11% (n=16) of characters were of Hispanic, Asian, or unknown ethnicity. Kappa scores were not high enough to accurately report character SES.

Visual foreground – alcohol use by character. In 60% of episodes (n = 30) a main character was drinking. Seventy percent of episodes (n = 35) showed either a main character drinking or a minor character drinking or talking about drinking. Eighty-six

percent ($n = 43$) of episodes included at least one reference to alcohol use by a main or minor character through actual drinking, dialogue about drinking, or the presence of alcohol paraphernalia in a scene.

The total number of drinks consumed by main characters in each year is captured in Figure 3.1. There was a non-significant ($\beta=0.95$, 95% CIs $[-3.06, 4.96]$) increasing linear trend in number of drinks by year. As mentioned above, this trend is indicative of the possibility of a change between years; however, the small sample size precludes an actual demonstration. The year with the highest number of drinks consumed was 2007-2008 ($n=52$), with beer being the most frequently consumed beverage across all years ($n=129$, 66%), followed by wine ($n=31$, 16%), mixed drinks ($n=21$, 11%), and distilled spirits ($n=14$, 7%).

Who is drinking, what are they drinking and how much? In the sample, male main characters drank 78% of the total number of drinks consumed and represented 71% of the total number of main characters drinking. Over the study period, a rising linear trend was observed in the number of drinks consumed by female main characters ($\beta = 0.25$, 95% CIs $[-0.59, 1.09]$) and male main characters ($\beta = 0.70$, 95% CIs $[-3.31, 4.71]$). A rising linear trend was also observed in the proportion of alcohol consumed by female main characters ($\beta = 0.03$, 95% CIs $[-0.02, 0.09]$) (Figure 3.2), as well as an upward trend in the proportion of female main characters drinking ($\beta = 0.01$, 95% CIs $[-0.04, 0.07]$) (Figure 3.3). None of these trends was significant, nor can they be used to demonstrate actual change over time, as a result of the small sample size. However, this trend analysis is demonstrative of what could be done with a larger sample.

Wine was the drink of choice among female main characters, representing 40% of the total number of drinks they consumed, while beer was the drink of choice for male main characters, comprising 78% of the alcohol they drank. In the majority of drinking occasions, characters consumed one drink per scene (84%, n=123 drinking occasions). On seven drinking occasions (6%), characters consumed six or more drinks.

Consequences of drinking. The majority of drinking occasions did not depict any apparent consequences of drinking to the drinker (81%, n = 118), while 12% (n = 18) of drinking occasions inferred a positive consequence to self. For example, on *American Dad*, one of the main characters, Roger, the alien, wakes up next to an unknown woman and is pleased to see that he probably had sex with her the night before; he is surrounded by empty alcohol containers.

Approximately 5% (n = 7) of drinking occasions inferred a negative consequence to the individual who was drinking. These occasions had characters drinking one, two, or three drinks—none were occasions where characters drank in excess of three drinks. For example, on *American Dad*, one of the main characters, Stan, is visibly upset because he is being forced to drink alcohol from a flask by an intimidating woman at a party.

The majority of drinking occasions showed no consequences to those around the drinker (85%, n = 124), and 7% (n = 10) of drinking occasions showed positive consequences for those around the drinker. For example, on *The Cleveland Show*, one of the main characters, Cleveland, considers it humorous, laughs and expresses that he is having a good time when his wife Donna vomits after drinking. In 7% (n = 10) of the drinking occasions, consequences to those around the drinker were negative. For example, on *Family Guy*, one of the main characters, Peter, and his friends are drinking

in the back of a car while Peter's teenage daughter Meg drives them around. As a result of their drinking, the group then lights Meg's hair on fire.

Discussions about drinking. In discussions of alcohol, 44 characters (both main and minor) (45%) spoke positively about drinking. For example, a main character, Cleveland (*The Cleveland Show*), says to his wife while they are on vacation, "All I need to make me happy is an oceanfront infinity pool and a swim up bar. You know, the simple things." Another 42 characters (n = 43%) mentioned something negative about drinking. For example, on *The Simpsons*, one of the main characters, Marge, asks her husband, Homer, to please be sober when he comes to Lisa's (his daughter's) award ceremony.

The remainder of the discussions had either a mixed message or no identifiable positive or negative context. An example of a discussion with a mixed message occurred on *The Big Bang Theory*, where one of the main characters, Howard, said to another main character, Raj, "At least I can talk to women without being drunk," referring to Raj's inability to speak to women without first having an alcoholic beverage. Here, Howard is talking about the need for alcohol negatively, while Raj would likely see it positively. An example of a neutral context occurred on *The O.C.*, when Kirsten, one of the main characters, hosting a cocktail party at her house, mentioned she was on her way to get another serving of champagne from the bar set up across the room.

Background Acts. In the sample, 63 minor characters or groups of minor characters were either consuming alcohol or talking about alcohol in the 50 coded episodes. Examples include TV announcers (*The Simpsons*), a group of guests at a wedding (*That 70s Show*) and a group of patrons in a Karaoke bar (*King of the Hill*).

Visual Background. Twelve of the 18 TV programs included alcohol paraphernalia in one or more scenes, including wine glasses on shelves (*Family Guy*), a full wine and spirits rack in a living room (*New Girl*), and empty beer bottles in an apartment (*The Big Bang Theory*).

Underage Drinking and Alcohol-Related Violence. The sample included 12 instances of alcohol being used or mentioned as having been used in a violent or illegal manner. On an episode of *The O.C.*, for example, one of the main characters, Seth, an under-aged high school student, over-drunk, which led to minor physical consequences (vomited in a bar, had an uncomfortable hangover the next morning), some embarrassment (vomited in front of a woman he was trying to impress), engaging in an activity he regretted (inadvertently divulged a secret that hurt the relationship of a friend), receipt of a minor reprimand from his parents, and not being allowed to leave his house for an afternoon.

A main character, Cleveland, (*The Cleveland Show*) demonstrated possible illegal activity related to alcohol when he attempted to drive immediately after finishing a beer, throwing an empty beer bottle into the street. In an example of alcohol-related violence and illegal activity fueled by alcohol, one of the main characters, Lois, (*Malcolm in the Middle*) and her book club friends, while visibly intoxicated, went to a neighbor's house, set fire to garbage cans, vandalized the home, and attempted to evade arrest.

Discussion

With this content analysis, we demonstrated a methodology typical of what can be done to capture alcohol content on TV programs popular among youth. With the small

sample size we were not able to demonstrate statistically significant trends; however, with a larger sample, this type of analysis may be possible.

The novelty of our sampling approach (sampling most watched programs instead of all programs) proved instructive in two ways: 1) we realized we would not be able to compare our results with those of other leading content analyses; and 2) we realized the importance of using this sampling strategy over any other in order to capture alcohol content to which young people were most exposed. For future studies, researchers will have to weigh the benefit of being able to compare their results to past studies, or start a new tradition of analyses by focusing on programs with the greatest viewership. It is our belief, with the huge proliferation of specialty TV channels and niche programming, it will become increasingly important to identify the content that is being viewed by the largest portion of the population (or certain segments of the population such as youth), and capture the alcohol-related content therein. In this way, researchers will have an opportunity to describe the zeitgeist of TV programming and the drinking culture disseminated on the programs most viewed by young people.

This study was limited by its size; however, as a pilot study it demonstrated feasibility of future studies to expand upon this methodology. A stronger theoretical base for codebook creation would allow a further investigation into modeling behaviors of TV viewers and their favorite recurring TV characters, i.e., what types of characters are seen drinking, and are these character types the most or least likely to influence young people? A clear theoretical framework would guide the coding, as well as help to develop a fuller explanatory model of what happens in viewers' minds as they watch their favorite characters engaging in drinking behaviors. Furthermore, coding of simple demographics

and coding by character was sufficient for the pilot; however, in future studies, coders should code by scene as well as by character in order to be able to capture more elements of the context of drinking.

Comparison of these results with the earlier findings of Wallack and colleagues (1990) is difficult due to methodological differences in the coding. While both studies looked at trends in alcohol use on TV over 10 years and calculated numbers of alcohol acts per hour, background alcohol acts in the 1990 study included counts of individual background characters drinking who were part of a group, and each preparation or ingestion of a drink was counted as a separate drinking act. In contrast, the current study coded more conservatively: if a group of background characters was drinking, for example in a wedding, that group drinking counted as a single alcohol act. The fact that the two studies found similar numbers of drinking acts per hour is suggestive of an actual increase in drinking acts in the past 20 years; however, future research should consider coding methods that are consistent with past research so that trends can be tracked over time more easily.

Future methodological considerations should also include a stronger measure of SES. In this study, SES could not be used because of low coder agreement. Also, when coding for alcohol portrayals, depictions could be further divided into actual consumption and implied consumption, since actual consumption may have greater learning or modeling effects among viewers.

In terms of content results, we found that the prevalence of alcohol on entertainment TV programs most popular among youth increased slightly from 2002 to 2012. We found few portrayals of negative consequences of alcohol use to the drinker or

to those around the drinker. The frequency with which characters drink and the paucity of consequences they experience from their drinking also likely contribute to the normalization of alcohol use. As youth admire their favorite characters and see them drinking in a myriad of situations without consequences, TV portrayals not only confirm but also help to create social norms (Gray & Lotz, 2012), which may extend to alcohol use.

Youth are exposed to multiple forms of media that have potential to influence their drinking behaviors. However, media exposure is not the only influence on youth drinking; other influences include families' drinking practices, religion, peer influence (Mason & Windle, 2001), the drinking culture in which they have grown up (Room & Makela, 2000), and the alcohol policies in their geographic areas (Stockwell & Gruenwald, 2004). However, as one of the many influences on youth drinking, and one that can potentially be influenced through media policy or actions of the creative community, it is important to monitor portrayals of alcohol consumption on TV.

Conclusions

This pilot study demonstrated the feasibility of completing a content analysis capturing patterns of alcohol portrayals on entertainment television over a 10-year period, which has not been done in the last 26 years. We were also able to describe trends in alcohol portrayals on entertainment TV programs most popular among 12-20 year olds, which has not been done before.

Further development of this line of research could provide valuable information for public health and for the creative community of TV writers, directors, and producers regarding trends in portrayals of drinking on entertainment television. These findings

could offer the basis for conversations with the creative community regarding the potential impact of these portrayals on young people. Thirty years ago, similar research led to analogous conversations and short-term changes in the content of entertainment programming (Breed & De Foe, 1982; Winsten, 1994).

Future research should also examine the impact of animated programming, especially the “animated satire” genre, which includes TV programs such as *The Simpsons* and *Family Guy*. (Mittell, 2010, p. 298). Mittell describes how animation permits the depiction of unrealistic scenarios that would otherwise be impossible or inappropriate to include in non-animated programming. Other content analyses have not made any distinction between the levels of influence of animated versus non-animated characters (e.g., Glik et al. (2005)). Still other research has demonstrated that youth are more likely to identify with and imitate more attractive characters in a narrative setting (Bahk, 2001). TV writers and producers can more easily manipulate the level of attractiveness of animated characters, perhaps influencing the likelihood of imitation.

Monitoring youth exposure to alcohol advertising has produced increasing evidence that youth are being targeted by alcohol advertisers (Ross et al., 2014b), and that this exposure is influencing their drinking choices (Ross et al., 2014a). Extending this kind of monitoring to alcohol depictions in the entertainment TV programs popular among youth holds further promise of assisting public health advocates to assess and develop strategies to counter the influence of electronic media on youth drinking behavior. These, in turn, may complement other evidence-based strategies, such as reducing alcohol outlet density (Campbell et al., 2009) and increasing alcohol taxes

(Elder et al., 2010), and contribute to a reduction in the prevalence and toll of underage drinking.

References

- Anderson, P., de Bruijn, A., Angus, K., Gordon, R., & Hastings, G. (2009). Impact of alcohol advertising and media exposure on adolescent alcohol use: A systematic review of longitudinal studies. *Alcohol and Alcoholism*, 44(3), 229-243.
- Bahk, C. M. (2001). Perceived realism and role attractiveness in movie portrayals of alcohol drinking. *American Journal of Health Behavior*, 25(5), 433-446.
- Bergamini, E., Demidenko, E., & Sargent, J. D. (2013). Trends in tobacco and alcohol brand placements in popular US movies, 1996 through 2009. *JAMA Pediatr*, 167(7), 634-639. doi: 10.1001/jamapediatrics.2013.393
- Breed, W., & De Foe, J. R. (1982). Effecting Media Change: The Role of Cooperative Consultation on Alcohol Topics. *Journal of Communication*, 32(2), 88-99. doi: 10.1111/j.1460-2466.1982.tb00499.x
- Byrd-Bredbenner, C. (2004). An internationally shared health frame of reference created by a television program: The Simpsons, a content analysis of health messages. *Health Education*, 104(1), 18-24.
- Campbell, C. A., Hahn, R. A., Elder, R., Brewer, R., Chattopadhyay, S., Fielding, J., . . . Task Force on Community Preventive, S. (2009). The effectiveness of limiting alcohol outlet density as a means of reducing excessive alcohol consumption and alcohol-related harms. *American Journal of Preventive Medicine*, 37(6), 556-569. doi: 10.1016/j.amepre.2009.09.028
- Center on Alcohol Marketing and Youth. (2010). Youth Exposure to Alcohol Advertising on Television, 2001-2009. Baltimore, MD: Center on Alcohol Marketing and Youth.

- Centers for Disease Control and Prevention. (2015). Alcohol-Related Disease Impact (ARDI) application, 2006-2010, from http://apps.nccd.cdc.gov/DACH_ARDI/Default/Default.aspx
- Christenson, P. G., Henriksen, L., & Roberts, D. F. (2000). Substance use in popular prime time television: Office of National Drug Control Policy.
- Conger, R. D., Conger, K. J., & Martin, M. J. (2010). Socioeconomic Status, Family Processes, and Individual Development. *Journal of Marriage and Family*, 72(3), 685-704. doi: 10.1111/j.1741-3737.2010.00725.x
- Dal Cin, S., Worth, K. A., Gerrard, M., Stoolmiller, M., Sargent, J. D., Wills, T. A., & Gibbons, F. X. (2009). Watching and drinking: expectancies, prototypes, and friends' alcohol use mediate the effect of exposure to alcohol use in movies on adolescent drinking. *Health Psychology*, 28(4), 473-483. doi: 10.1037/a0014777
- Elder, R. W., Lawrence, B., Ferguson, A., Naimi, T. S., Brewer, R. D., Chattopadhyay, S. K., . . . Task Force on Community Preventive, S. (2010). The effectiveness of tax policy interventions for reducing excessive alcohol consumption and related harms. *Am J Prev Med*, 38(2), 217-229. doi: 10.1016/j.amepre.2009.11.005
- Glik, D., Kinsler, J., Todd, W. A., Clarke, L., Fazio, K., Miyashiro, R., . . . Flores, R. C. (2005). Unintentional injury depictions in popular children's television programs. *Inj Prev*, 11(4), 237-241. doi: 10.1136/ip.2003.004184
- Gordon, R., Harris, F., Marie Mackintosh, A., & Moodie, C. . (2011). Assessing the cumulative impact of alcohol marketing on young people's drinking: Cross-sectional data findings *Addiction Research & Theory*, 19(1), 66-75.

- Gray, J., & Lotz, A. D. (2012). Programs *Television Studies* (pp. 26-56). Malden, MA: Polity Press.
- Grube, J. W., & Agostinelli, G. E. (1999). Perceived consequences and adolescent drinking: Nonlinear and interactive models of alcohol expectancies. *Psychology of Addictive Behaviors, 13*(4), 303-312. doi: 10.1037/0893-164x.13.4.303
- Hanewinkel, R., Sargent, J. D., Hunt, K., Sweeting, H., Engels, R. C., Scholte, R. H., . . . Morgenstern, M. (2014). Portrayal of alcohol consumption in movies and drinking initiation in low-risk adolescents. *Pediatrics, 133*(6), 973-982. doi: 10.1542/peds.2013-3880
- Hanewinkel, R., Sargent, J. D., Poelen, E. A., Scholte, R., Florek, E., Sweeting, H., . . . Morgenstern, M. (2012). Alcohol consumption in movies and adolescent binge drinking in 6 European countries. *Pediatrics, 129*(4), 709-720. doi: 10.1542/peds.2011-2809
- Jernigan, D. H., Ostroff, J., Ross, C. S., Naimi, T. B., & Brewer, R. D. (2007). Youth exposure to alcohol advertising in magazines - United States, 2001-2005. *Morbidity and Mortality Weekly Report, 56*(30), 763-766.
- Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2013). Monitoring the Future national results on drug use: 2012 Overview, Key Findings on Adolescent Drug Use. Ann Arbor: Institute for Social Research, The University of Michigan.
- Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (2015). Monitoring the Future national survey results on drug use: 1975-2014:

- 2014 Overview, key findings on adolescent drug use. Ann Arbor: Institute for Social Research, The University of Michigan.
- Kotch, J. B., Coulter, M. L., & Lipsitz, A. (1986). Does televised drinking influence children's attitudes toward alcohol? *Addictive Behaviors*, 11(1), 67-70.
- Mason, W. A., & Windle, M. (2001). Family, Religious, School and Peer Influences on Adolescent Alcohol Use: A Longitudinal Study. *Journal of Studies on Alcohol and Drugs*, 62(1), 44-53.
- Masten, A. S., Faden, V. B., Zucker, R. A., & Spear, L. P. (2008). Underage drinking: a developmental framework. *Pediatrics*, 121 Suppl 4, S235-251. doi: 10.1542/peds.2007-2243A
- Mathios, A., Avery, R., Bisogni, C., & Shanahan, J. (1998). Alcohol portrayal on prime-time television: Manifest and latent messages. *Journal of Studies on Alcohol*, 59(3), 305-310.
- Mittell, J. (2010). Screening America *Television and American Culture* (pp. 269-304). New York: Oxford University Press, Inc.
- Murphy, S. T., Hether, H. J., & Rideout, V. (2008). How healthy is prime time? Menlo Park, CA: The Kaiser Family Foundation and The USC Annenberg Norman Lear Center's Hollywood, Health & Society.
- Nielsen. (2012). State of the media: the social media report 2012, from <http://www.nielsen.com/us/en/reports/2012/state-of-the-media-the-social-media-report-2012.html>

- Patrick, M. E., Wray-Lake, L., Finlay, A. K., & Maggs, J. L. (2010). The long arm of expectancies: adolescent alcohol expectancies predict adult alcohol use. *Alcohol Alcohol*, 45(1), 17-24. doi: 10.1093/alcalc/agg066
- Rideout, V. J., Foehr, U. G., & Roberts, D. F. (2010). Generation M2. Media in the lives of 8-18 year olds. Menlo Park, CA: Henry J. Kaiser Family Foundation.
- Room, R., & Makela, K. (2000). Typologies of the Cultural Position of Drinking. *Journal of Studies on Alcohol and Drugs*, 61(3), 475-483.
- Ross, C. S., Maple, E., Siegel, M., DeJong, W., Naimi, T. S., Ostroff, J., . . . Jernigan, D. H. (2014a). The relationship between brand-specific alcohol advertising on television and brand-specific consumption among underage youth. *Alcoholism: Clinical and Experimental Research*, 38(8), 2234-2242. doi: 10.1111/acer.12488
- Ross, C. S., Ostroff, J., & Jernigan, D. H. (2014b). Evidence of underage targeting of alcohol advertising on television in the United States: lessons from the Lockyer v. Reynolds decisions. *Journal of Public Health Policy*, 35(1), 105-118. doi: 10.1057/jphp.2013.52
- Russell, C. A., & Russell, D. W. (2009). Alcohol Messages in Prime-Time Television Series. *Journal of Consumer Affairs*, 43(1), 108-128. doi: 10.1111/j.1745-6606.2008.01129.x
- Russell, C. A., Russell, D. W., & Grube, J. W. (2009). Nature and impact of alcohol messages in a youth-oriented television series. [Article]. *Journal of Advertising*, 38(3), 97-111.

- Sargent, J. D., Wills, T. A., Stoolmiller, M., Gibson, J., & Gibbons, F. X. (2006). Alcohol use in motion pictures and its relation with early-onset teen drinking. *Journal of Studies on Alcohol*, 67(1), 54-65.
- Scharrer, E. (2012). More than 'just the facts'? Portrayals of masculinity in police and detective programs over time. *Howard Journal of Communications*, 23(1), 88-109.
- Shrum, L. J., & Lee, J. (2012). The stories TV tells: how fictional TV narratives shape normative perceptions and personal values. In L. J. Shrum (Ed.), *The psychology of entertainment media. Blurring the lines between entertainment and persuasion* (pp. 147-167). New York, NY: Routledge.
- Smith, L. A., & Foxcroft, D. R. (2009). The effect of alcohol advertising, marketing and portrayal on drinking behaviour in young people: Systematic review of prospective cohort studies. *BMC Public Health*, 9(51).
- Stockwell, T., & Gruenwald, P. (2004). Controls on the physical availability of alcohol. In N. Heather & T. Stockwell (Eds.), *The essential handbook of treatment and prevention of alcohol problems*. England: John Wiley & Sons Ltd.
- Substance Abuse and Mental Health Services Administration [SAMHSA]. (2014). Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings *NSDUH Series H-48*. Rockville, MD: Substance Abuse and Mental Health Services Administration.
- Wallack, L., Grube, J. W., Madden, P. A., & Breed, W. (1990). Portrayals of alcohol on prime-time television. *Journal of Studies on Alcohol*, 51(5), 428-437.

Winsten, J. A. (1994). Promoting designated drivers: the Harvard Alcohol Project.
American Journal of Preventive Medicine, 10(3 Suppl), 11-14.

Table 3.1 Coding categories for alcohol acts

	Description of coding category	Examples
Visual foreground acts	<p>Explicit alcohol consumption or implied consumption by a main character.</p> <p>Counts of portrayals recorded and for each portrayal the following were recorded: type of drink (beer, wine, spirits, mixed drink or other), number of drinks, consequences of drinking to the drinker and consequences to those around the drinker (positive, negative, neutral or mixed).</p>	<p><i>Explicit consumption:</i> a main character actively drinking.</p> <p><i>Implied consumption:</i> the main character was holding an alcoholic beverage in one scene and then the beverage container was empty in the next scene; alcohol containers in the hand of the character, alcohol at the table and “assigned” to the character.</p>
Background acts	<p>Minor characters drinking or talking about drinking in the foreground or background.</p> <p>Counts of portrayals of any minor character, including extras, crowds, etc. using or talking about alcohol. Crowds of minor characters given a count of one.</p>	<p>A group of minor characters are guests at a wedding. Some but not all are drinking. The whole group would count as one alcohol act, regardless of the number who are drinking.</p>
Visual background acts	<p>Passive references to alcohol in the scene including alcohol paraphernalia and alcohol-related locations. Counts per episode were recorded.</p>	<p><i>Alcohol Paraphernalia:</i> wine bottles, beer bottles, etc.</p> <p><i>Alcohol-related locations:</i> a bar (not a restaurant), bartender pouring a drink, etc.</p>
Verbal foreground acts	<p>Verbal mentions of alcohol by a main character. Counts by character recorded and the tone of each mention was recorded as positive, negative, neutral or mixed.</p>	<p>The character could be talking about his or her own drinking or the drinking of someone else, or alcohol in general, talking about past or future drinking sessions, etc.</p>

Table 3.2 Most viewed scripted entertainment TV shows among 12-20 year olds on network TV in order of number of viewers by year

TV Season	TV Programs				
	1	2	3	4	5
2002-2003	Simpsons	Malcolm in the Middle	Friends	That 70s Show	CSI
2003-2004	Simpsons	That 70s Show	Friends	CSI	Malcolm the Middle
2004-2005	Simpsons	CSI	Desperate Housewives	That 70s Show	The O.C.
2005-2006	Family Guy	Simpsons	Grey's Anatomy	CSI	House
2006-2007	Family Guy	House	Simpsons	Grey's Anatomy	CSI
2007-2008	Family Guy	House	Simpsons	American Dad	King of the Hill
2008-2009	Family Guy	Simpsons	House	American Dad	The Office
2009-2010	Family Guy	Simpsons	Glee	Cleveland Show	Big Bang Theory
2010-2011	Glee	Simpsons	Family Guy	Modern Family	Cleveland Show
2011-2012	Modern Family	Glee	Family Guy	New Girl	Big Bang Theory

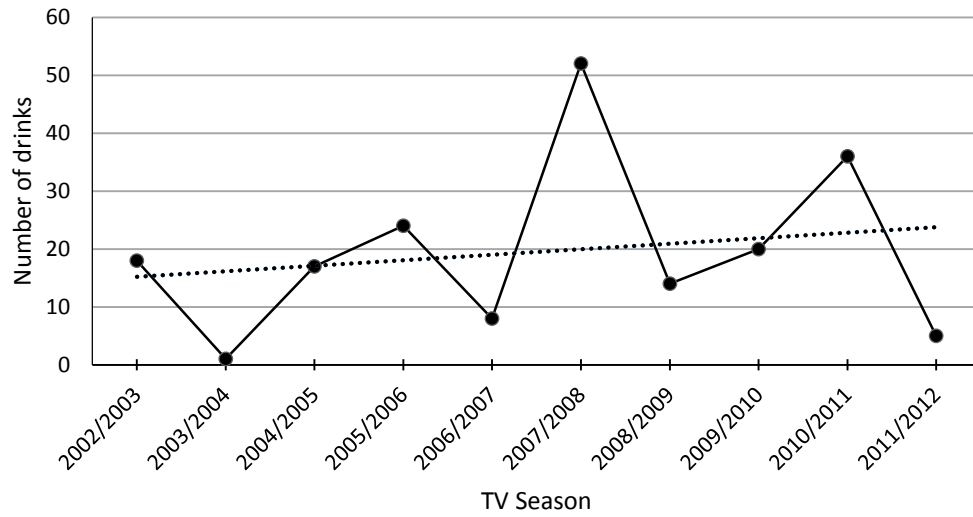


Figure 3.1 Total number of alcoholic beverages consumed by main characters each year

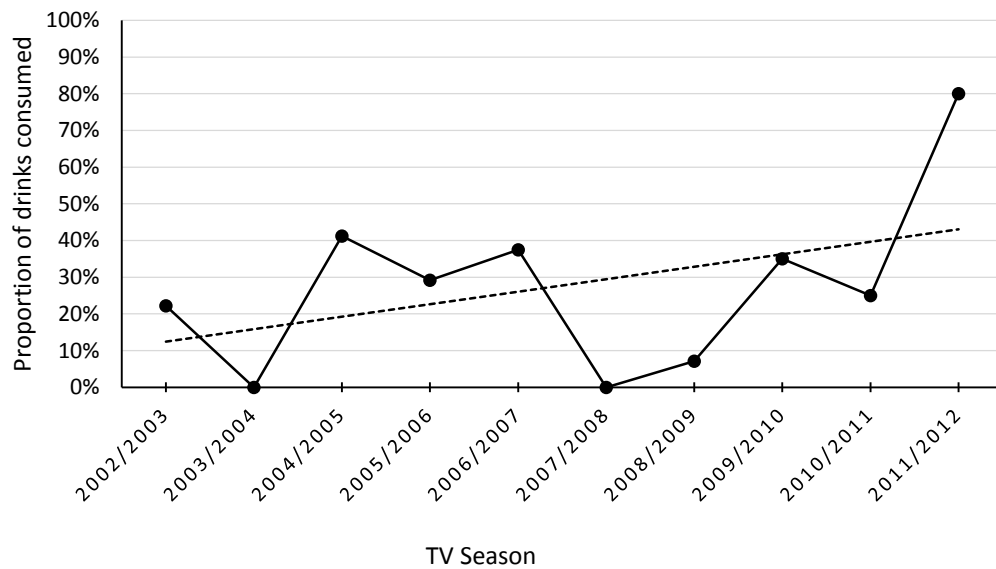


Figure 3.2. Proportion of drinks consumed by females each year

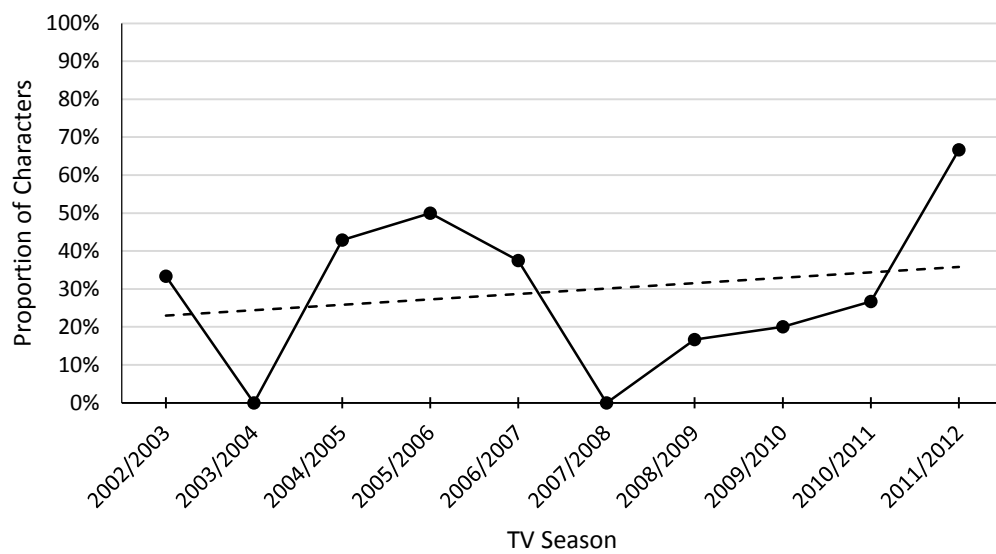


Figure 3.3. Proportion of characters drinking who are female

Chapter 4: Revisiting alcohol on primetime: content analysis of TV programs popular among youth, 2002 to 2012

Abstract

Objective: Document and describe the alcohol content on entertainment television programs most popular among 12-20 year olds to determine whether and how content was changing over time.

Method: We used Nielsen data to identify the top 5 most viewed programs by 12-20 year-olds in the US for each year between 2002 and 2012. We performed a content analysis to capture all alcohol references, appearances and character actions involving preparation to ingest or consumption of alcohol on a random sample of episodes from each of the sweeps seasons in each of the ten years.

Results: Most of the episodes ($n = 125$, 83%) contained at least one reference to alcohol. Between 2002 and 2012 there was a significant increase in all three major measures of the frequency of alcohol on TV: the total number of references to alcohol per hour ($\beta = 3.45$, 95% CIs [0.625, 6.28]); the number of alcohol appearances (verbal and visual) per hour ($\beta = 0.824$, 95% CIs [0.115, 1.53]), and the number of alcohol acts per hour ($\beta = 2.62$, 95% CIs [0.339, 4.92]).

Conclusion: Since the last time a similar study was done capturing alcohol content on TV over a 10-year period, almost 30 years ago, the rates of alcohol use on TV have increased dramatically. As a vehicle of influence, the television narrative provides a salient opportunity to both encourage and hinder the effort to reduce the harms from

alcohol use among youth. The creative community should examine and understand the possible influence of its decisions about how, when and how often to portray alcohol and alcohol use.

Introduction

Alcohol use continues to be a significant problem among youth, even during a period of declining rates of consumption (Johnston, O'Malley, Miech, Bachman, & Schulenberg, 2015). Early alcohol use and early intoxication are associated with alcohol dependence later in life, a greater likelihood of driving after drinking, and a greater likelihood of sustaining drinking-related injuries (Hingson, Heeren, Zakocs, Winter, & Wechsler, 2003; Hingson, Edwards, Heeren, & Rosenbloom, 2009). As of 2014, 27% of U.S. students in 8th grade had tried alcohol and 11% reported ever having been drunk. By 12th grade, approximately half of all students reported ever having been drunk, and 37% reported past 30-day use (Johnston et al., 2015). Youth who report binge drinking are more likely to have problems in school, be sexually active, attempt suicide, and use other drugs (Miller, Naimi, Brewer, & Jones, 2007). Alcohol is the drug most used among young people (Johnston et al., 2015). Excessive alcohol use is responsible for over 4,300 deaths in the US each year among persons under age 21 (Centers for Disease Control and Prevention, 2015).

Alcohol in the media

A young person's media environment can be influential in his or her decision to drink. A comprehensive review of the literature on media effects reported associations between media exposure, especially alcohol advertisements, and positive attitudes and

beliefs about alcohol and greater intentions to drink (Villani, 2001). Longitudinal studies have linked youth exposure to alcohol advertising with an increased likelihood of drinking (Anderson, de Bruijn, Angus, Gordon, & Hastings, 2009; Smith & Foxcroft, 2009). Pechmann (2005) and colleagues found that youth are more susceptible than adults to advertisements, especially advertisements for “risky branded products... that provide immediate gratification, thrills and/or social status” (p.202). A recent content analysis of alcohol ads in magazines found that the ads included such content, specifically aspirational messages connecting social status and prestige with alcohol use (Smith, Cukier, & Jernigan, 2013).

Television as a special medium

Other studies have looked at the alcohol content on television (TV) programs. This is of significance during a time when TV content remains the medium used most by US youth, aged 8-18 (4 hours 29 minutes per day) (Rideout, Foehr, & Roberts, 2010), even during an age of proliferation of new media. Television narratives present a different kind of exposure to alcohol use, in which viewers are invited into a full-blown narrative of a character’s world, as opposed to the brief glimpse offered in a 30-second TV advertisement or a still image in a magazine ad. Narrative transportation (Carpenter & Green, 2012) occurs when a viewer is transported into the storyline of a character. In this case, a viewer has the opportunity to become familiar with the character, get to know his or her likes and dislikes, his or her routine, friends, habits, and more.

Alcohol on TV

In a content analysis of top-rated prime-time TV programs on five broadcast networks (ABC, CBS, NBC, FOX, WB) during the 2004-2005 TV season, Russell and

Russell (2009) found that alcohol was present in 89% of episodes. Murphy et al. (2008) conducted a content analysis of three TV seasons (2004, 2005, and 2006), also documenting alcohol content on popular primetime TV programs, and found that at least one alcoholic beverage was shown or consumed in 51% of episodes. In a content analysis of popular TV programs in the 1998-1999 TV season, Christenson and colleagues (2000) found that alcohol use was portrayed on 71% of episodes. In 1986, Wallack, Grube, Madden and Breed (1990) completed a content analysis looking at trends in alcohol use on prime-time TV over 10 years. In the last year of their study, they found alcohol content on 64% of TV episodes in their sample. Over the 10-year study period they saw an increase in the number of alcohol acts per hour of TV between 1976 and 1984 and then a decrease between 1985 and 1986.

Although alcohol use is pervasive on TV, and has potential at least in theory to function as a harmful influence on young people, no recent study has documented its long-term presence. Content analyses of TV programs have looked at two (Mathios, Avery, Bisogni, & Shanahan, 1998) and three years (Murphy et al., 2008) of TV programming, single years of alcohol content on TV (e.g., Christenson et al., 2000; Russell & Russell, 2009), or single TV programs (e.g., Byrd-Bredbenner, 2004; Russell, Russell, & Grube, 2009), but none, to the authors' knowledge, have documented or analyzed the alcohol content over 10 years of TV programs since Wallack et al. (1990).

Missing from the literature, therefore, is an update of the alcohol-related content currently on scripted entertainment TV programs popular among youth. As potential role models and messengers of cultural influence, TV characters are an important group to explore. The primary aim of this study was to document and describe the alcohol content

on entertainment television programs most popular among 12-20 year olds to determine whether and how content was changing over time.

Methods

Sample

We used the Nielsen ratings data to identify five entertainment TV programs per year in each of the ten television seasons from 2002-2003 to 2011-2012⁴ with the highest number of 12-20 year-old viewers. The sample was limited to TV programs airing during primetime (8pm to 11pm) on four broadcast networks—ABC, CBS, NBC and FOX—as these networks have the largest audiences (Nielsen Inc., New York, NY). We used three out of the four sweeps seasons⁵ to determine the months from which to sample TV episodes. We used a random number table to identify one episode in each of the November, February and May sweeps seasons per program for each of the five TV programs in each of ten years. Manganello et al. (2008) found that coding three episodes in one season was sufficient to represent the season as a whole, in program-level analysis. We did not sample from the July sweeps season as TV viewing tends to decrease in the summer months. This generated a total of 15 episodes per year for each of 10 years, resulting in a total of 150 episodes for the content analysis. We viewed the TV programs via Netflix and Amazon Instant and if programs were unavailable on those sites, we used other online streaming websites.

⁴ © 2012 The Nielsen Company. Ratings and other data contained herein are the copyrighted property of The Nielsen Company. Unauthorized use of this copyrighted material is expressly prohibited. Violators may be subject to criminal and civil penalties under federal law (17 USC 101 et seq.). All rights reserved.

⁵ Sweeps seasons occur in November, February, May and July when Nielsen ratings are collected through TV diaries in representative households. Advertising rates for commercials are determined based on these ratings, therefore TV episodes airing during these periods are typically the most guest-star studded or most highly anticipated which then attract the largest audiences

Coder Training

We created a codebook based on the work of Cukier et al. (manuscript submitted), and using methods from the series of content analyses by Wallack et al. (1990) capturing all alcohol-related content on TV programs both by character and by scene. We captured demographic information of all foreground characters, defined as those who are the main focus of the scene or who have speaking roles. We identified character name, gender, race, and age range via imdb.com and program and character Wiki pages. When we were unable to identify age or race of a character, e.g., non-human characters, we used the “not available” and “other” categories, respectively. Further, the relative importance of each character was noted as either a main character (appearing on >85% of episodes in that program’s season, verified by imdb.com), occasional character (appearing in more than two episodes and <85%) or one-time character (guest appearances once or twice in the season).

We used The Gilbert-Kahl Model of the Class Structure (Gilbert, 2015) to identify character class level. This model uses a family’s principal source of income as the determining factor in socioeconomic class and distinguishes between upper class, upper-middle class, middle class, working class, working poor and underclass (see Table 4.1 for a full description of each category). We collected character occupation information from imdb.com and program Wiki pages. We matched character occupation with the examples of occupations provided by the Model, for each category. If a character’s occupation changed from one season to the next, the occupation coded was the one the character maintained for the longer period.

We categorized main characters according to their character typologies based on Vladimir Propp's (1968) seven broad character types. In more recent narrative analysis, others (e.g., Berger, 1989; Silverstone, 1987) have adapted and expanded upon Propp's typology to provide character examples from more modern television programs. We used these examples as well as Propp's original character type descriptions to categorize the characters in our sample. We categorized only main characters since it was not possible to gather enough information about occasional or one-time characters from imdb.com or program Wiki pages. We used only four of Propp's character typologies, those most often found in American television narratives (Wigston, 2001). Propp's "hero" and "princess" categories are character types most likely to be modeled by viewers (Bahk, 2001) since they are often the most attractive (Fiske, 2011). The "hero" is the major character (or characters) with whom the viewer normally associates. He or she is usually the center of the story, for example, two of the main characters on *Modern Family*, Phil and Claire. The "princess" character is usually the character sought after by the hero. The character is often female and is often seen as the reward in the story, for example, the character Penny on *The Big Bang Theory*. We used Propp's "helper" typology for characters that were supports to the "hero," or supports to the storyline, for example, the character Dr. Wilson, on *House*. Finally we used Propp's "villain" typology as the character that stands in contrast to the "hero," for example, Mr. Burns on *The Simpsons*.

All scenes with an *alcohol act* or *alcohol appearance* were coded. A scene was defined by actions among characters occurring in the same location. We defined an alcohol act as any *preparation to drink* or any *ingestion* of alcohol. Working from the definition used by Wallack et al. (1990), preparing to drink included ordering, pouring,

accepting, holding a drink (but not ingesting), having a drink nearby, or carrying a closed single serve alcohol container. A drink ingestion was a count of the number of times a character put his or her mouth to the alcohol container and swallowed the beverage, including number of sips. We counted alcohol acts by foreground characters only.

An alcohol appearance was any visual or verbal reference to alcohol. We captured *alcohol paraphernalia* (visual reference) which was any item that would typically be associated with alcohol, e.g., alcohol sponsorship signs, empty wine glasses, or a red solo cup. Alcohol paraphernalia were counted and described only when they were not part of a preparation to drink or an ingestion, e.g., if a character was drinking wine from a wine glass and the wine bottle was in view, we coded the bottle as paraphernalia, but not the wine glass since it was counted as a preparation or ingestion. We captured whether the character was intoxicated, through visual or verbal cues, e.g., walking improperly or slurring words after consuming alcohol, a mention of being drunk, and whether the program showed a violent or illegal act related to a character's alcohol use, for example, if a character consumed alcohol and then performed an act of arson (violent and illegal), or an underage character consumed alcohol (illegal).

We also recorded *background alcohol acts*, in the form of a count of the number of ingestions of alcohol or preparing to drink acts by background characters. For example, we counted the number of individuals holding drinks while preparing to toast a couple getting married – these were background preparations to drink. We only counted the drinks that were easily identifiable as alcoholic (e.g., clear beer label, wine in a wine glass). When it was difficult to count the total number of preparations in the background because of the large number of people or the angle of the camera, we used a conservative

estimate of two preparations (similar to methods used by Wallack et al., (1990)). The same method was used to count the number of ingestions.

We used linear regression to estimate the change in alcohol acts per hour, by year and by sweeps season by year. Chi-square tests of independence were used to test for associations between demographic variables and drinker status, unless the expected value in any of the cells was less than five in which case Fisher's Exact Test (Rosner, 2011) was used.

Reliability

Two coders (authors 1 and 2) used TV episodes not part of the coding sample to learn the rules of coding for the content analysis. The two coders coded TV episodes separately and then came together to compare their results. This process continued until both coders were satisfied that all the variables were properly defined and that the codebook could properly capture the TV content. Once the codebook was finalized, the two coders continued to code episodes until reaching a level of agreement of 95% or above, for all variables. At this point, author 1 began coding the sample of TV episodes.

We calculated Cohen's Kappa three times during the coding process, using STATA version 11.2 (StataCorp LP, College Station, TX), to assess and ensure reliability. We calculated Kappa at time 1, after coders 1 and 2 coded the first year of TV episodes. Coder 1 proceeded with the next four years of episodes and then both coders coded year five episodes. Kappa was then calculated for time 2. Coder 1 again proceeded to code the next 4 years of episodes and then both coders coded year 10, followed by a Kappa calculation for time 3. Kappa scores at all three time points ranged from 0.70 to 0.95 for all but one variable: number of items of alcohol paraphernalia, which we

subsequently dropped from the analysis. This inconsistency in coding could have been due to the difficulty in reliably counting exact numbers of items when there was more than one, e.g., alcohol bottles on a shelf or wine glasses on a rack. We entered all data into Excel spreadsheets and then transferred into STATA for analysis.

Results

The total sample contained 150 TV episodes from 50 TV programs over the 10-year study period. Of the 50 programs, 21 were of the animated satire genre, e.g., *The Simpsons*, *Family Guy*. There were 18 unique programs and the remainder repeated over multiple years (see Table 3.2 in previous chapter).

Demographics

There were 264 unique foreground characters that performed an alcohol act. The majority were male ($n = 170$, 64%), 35-64 years old ($n = 139$, 53%), White ($n = 230$, 87%) and working class ($n = 84$, 32%). (see Table 4.2 for full demographics). Since modeling of TV characters is more likely to occur when viewers spend greater amounts of time with the characters, we are highlighting the characteristics of the main characters in this sample.

There were 136 main characters in the sample. Eighty-two (60%) of the main characters were helpers, 44 (32%) were heroes, 7 (5%) were villains and 3 (2%) were princesses. Of these main characters, 74 (54%) performed an alcohol act. The majority were male ($n = 47$, 64%), 35-64 years old ($n = 37$, 50%), White ($n = 58$, 78%), and upper-middle class ($n = 34$, 46%) (see Table 4.2 for full demographics). Thirty (68%) of

the hero-types, 38 (46%) of the helpers, 4 (57%) of the villains and 2 (67%) of the princesses all performed at least one alcohol act.

Alcohol Content by Episode

The majority of episodes ($n = 125$, 83%) contained at least one reference to alcohol, either in the form of an alcohol appearance (visual or verbal reference) or an alcohol act (preparation or ingestion). Over the study period, 79% ($n = 118$) of episodes contained an alcohol appearance. As well, 79% ($n = 118$) of the episodes contained an alcohol act. In 2011-2012, 15 out of 15 episodes contained at least one alcohol act, while in the remainder of the years, between 10 and 14 episodes out of 15 contained at least one alcohol act. The difference in the number of episodes with alcohol acts by year was not significant.

Alcohol Content per Hour

A meaningful way to look at and compare alcohol references, appearances and acts between years is to calculate the number of each, per hour of TV. This way, the varying lengths of TV programs will not confound the results. Every year, there were approximately 3.5 more references to alcohol every hour than the year previous ($\beta = 3.45$, 95% CIs [0.625, 6.28]), a significant increase from year to year. In each consecutive year, the number of alcohol appearances per hour also increased significantly; from 7.6 appearances in 2002-2003 to 10.3 by 2011-2012 ($\beta = 0.824$, 95% CIs [0.115, 1.53]).

The total number of alcohol acts (foreground and background preparations and ingestions) per hour increased significantly between 2002-2003 and 2011-2012, between years ($\beta = 2.62$, 95% CIs [0.339, 4.92]) and between sweeps seasons, every year ($\beta = 0.889$, 95% CIs [0.383, 1.40]). Figure 4.1 illustrates the number of alcohol acts per hour

in each of the 10 TV seasons. Figure 4.2 illustrates the number of alcohol acts per hour over each of the sweeps seasons over the 10 years of the study. Over the ten-year study period, there was an average of 21.5 drinking acts in every hour of TV.

In 2007-2008 there was a marked increase in the hourly rate of alcohol acts, to more than 20 alcohol acts per hour on popular primetime TV. This was compared to rates of 8, 11 or 14 alcohol acts per hour in the earlier seasons. The year of the big jump (2007-2008) was the first year that included multiple animated satire programs. Four out of the five top programs that year were of this genre. For the next three years, three out of five most viewed programs were also animated satire.

The total rate of alcohol acts can be broken down into foreground acts and background acts. The total rate of alcohol acts is the number of acts that viewers are exposed to per hour. Wallack et al. (1990) characterized background drinking as a gratuitous action contributing to the normalization of alcohol use. The addition of background drinking to foreground acts added at least 1.2 times more drinking acts each year, and in two years (2008-2009, 2011-2012) resulted in twice as many drinking acts.

For every ingestion of alcohol, there were at least two and up to 6 (2005-2006, 2006-2007) preparing to drink acts. An exception was 2007-2008 where there were more ingestions of alcohol than there were preparing to drink acts.

Alcohol Acts by Character

A character was classified as a drinker if he or she was involved in at least one preparing to drink act or ingested at least one alcoholic beverage. There was no significant difference in the proportion of characters who were drinkers from year to year, nor was there a significant difference in the proportion of female characters who drank or

male characters who drank over the study period. Between 0% and 55% of female characters were drinkers in each year and between 25% and 53% of male characters were drinkers. When males drank or prepared to drink in foreground acts, it was at an average of 10.6 times per hour. Females drank or prepared to drink, in foreground acts, at an average of 2.7 times per hour. Although there was no significant difference in the rates of foreground alcohol acts from year to year for males ($\beta = 1.07$, 95% CIs [-0.47, 2.60]), or females ($\beta = 0.29$, 95% CIs [-0.04, 0.63]), there was a linear increase in the number of alcohol acts per hour for each gender over the ten-year study sample (see Figure 4.3).

Overall, beer was the type of drink most prepared or ingested ($n = 517$, 56%) in all foreground alcohol acts, followed by wine and champagne ($n = 199$, 21%), spirits ($n = 87$, 9%), mixed drinks ($n = 67$, 7%), unknown drinks ($n = 36$, 4%) and other drinks ($n = 23$, 2%). However, in 2004-2005 and 2011-2012 there were more alcohol acts with wine than with beer. Wine was the drink of choice for women, in all years, and beer was the choice for men in all years.

Class and Race

Drinking was significantly related to the class of main characters over the 10-year timeframe, $\chi^2 = 13.86$, $df = 2$, $p = 0.001$. Fifty-nine percent ($n = 35$) of upper class and upper-middle class main characters were drinkers. Fewer middle class main characters were drinkers ($n = 14$, 33%) and finally, working class and working poor main characters were more likely to be drinkers than non-drinkers ($n = 25$, 74%). Those at the highest and those at the lowest ends of the socioeconomic spectrum were the characters most likely to drink. Drinking was not significantly related to the race of main characters.

Age

Drinking was significantly related to age of main characters ($p < 0.001$). Main characters between the ages of 35-64 years were most likely to be drinkers ($n = 37$, 50%), followed by main characters 21-34 years. One third ($n = 11$) of underage main characters (11-20 years) were shown drinking or preparing to drink at least once.

Intoxication

Every year, there were at least two characters who were visibly intoxicated. In 2008-2009, there were 13 characters in five different episodes who were intoxicated. These characters appeared on four different TV programs, three of which were animated satire. On one episode of *Family Guy*, an animated satire program, two children under the age of 10 were shown with eyes half opened, almost falling down, slurring their speech after drinking lemonade that had been spiked with vodka. Peter, the show's main character, who is an adult, spiked the lemonade so he could sell more drinks and make more money at a lemonade stand he set up. On an episode of *American Dad*, another animated satire, one of the main characters, Roger the alien, was shown lying in a pool of his own vomit after overdrinking at a party. There was no significant difference between years in the number of characters who were intoxicated.

Illegal or Violent Acts

In each year of the study sample, there were at least two and at most 27 scenes portraying illegal or violent acts related to alcohol consumption, including underage drinking. The 2007-2008 TV season was an exception with no such acts. The year with the highest number of illegal or violent acts was 2009-2010. All the violent or illegal activity from this year appeared on episodes of *The Simpsons* and *The Cleveland Show*. The premise of one episode of *The Simpsons* was that the "rednecks" were distributing

moonshine. There were scenes that portrayed this illegal sale and distribution of alcohol as well as intoxication and violence that ensued as a result of the battle between legal sellers of alcohol and those wanting to sell moonshine. In an episode of *The Cleveland Show* that year, the main character, Cleveland, and his friend Cletus are in a bar and are intoxicated when a discussion heats up and turns into a fist fight. Cletus mentioned that he was “...*too drunk to fully understand*” what Cleveland was saying but felt that whatever it was Cleveland said was “*pissing [him] off*” and so the fight ensued. There was no significant change in the number of scenes with violent or illegal activities from year to year.

Discussion

The current content analysis demonstrated significant increases in alcohol references, alcohol appearances and alcohol acts, per hour of TV on programs most popular among 12-20 year olds, between 2002-2003 and 2011-2012. We can compare the alcohol content of TV shows from the most recent 10 years with the alcohol content on TV during the 10-year period 30 years ago (Wallack et al., 1990), since similar content coding methods were used. Different in the two studies, however, were the sampling strategies, which may account for some of the differences in findings. Wallack et al. randomly selected three evenings per week for seven weeks and coded all TV episodes broadcast between 8 and 11pm (prime-time). The types of TV programs were similar across both studies (situation comedy, drama) and neither included any special programming, e.g., sports. However, the Wallack et al. study included a number of movies (n= 19, 10%; n= 37.5 hours, 22% of the total sample hours), whereas movies

were not included in the current study. Considering the similarity in coding methods and program types, it is still possible to compare the results of the two while keeping this limitation in mind. The most salient way to compare the alcohol content, therefore, is to look at the number of alcohol acts per hour, per year, in the two studies.

In the first year of the Wallack et al. (1990) study (1976), there were 4.8 alcohol acts per hour of TV. In the first year of the present study (2002-2003), there were 11.2 alcohol acts per hour. The most alcohol acts per hour occurred in 1984, in the earlier study (10.2). In contrast, there was only one year in the current study that had fewer than 10.2 alcohol acts per hour (7.9 acts per hour in 2006-2007). In the remaining years of the current study, there were double, triple and even quadruple the number of alcohol acts per hour of popular prime-time TV, compared to the number of acts between 1976 and 1986. Overall, there was a significant difference between the number of alcohol acts per hour, per year in the current study compared to the number of alcohol acts per year in the earlier study, $F(1,14) = 12.23, p = 0.004$.

Wallack et al. discussed the possible gratuitous nature of background alcohol acts that added to the number of drinking acts on TV. Even with the addition of background acts to foreground acts in the earlier study, the number of foreground alcohol acts in almost every year of the current study was greater than the total number of acts in the earlier study.

The strong presence of main characters who are categorized as “heroes” and who are drinkers is problematic when one considers that TV viewers are more likely to model the behavior of these characters. Underage youth are watching these TV programs and

although not all will be highly “connected” to TV characters, the ones who are will see their television “peers” and role models drinking and will potentially be influenced.

The totality of alcohol references on the last 10 years of TV describe an ‘alcogenic’ (Huckle, Huakau, Sweetsur, Huisman, & Casswell, 2008) environment where people are preparing to use alcohol, are using alcohol or are simply reminded of its presence by paraphernalia in and around where characters live, work and entertain. These increases can be contrasted with the overall decreasing levels of drinking among youth in the U.S. (Johnston et al., 2015) and a leveling off of the prevalence of drinking among the general public 12 years and above (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014). In the U.S., past month prevalence of drinking has hovered at around 50% of the population between 2002 and 2012 (SAMHSA, 2014). Between those same years on TV, however, drinking prevalence rates have fluctuated between 50% and 79% (with the exception of 2006-2007 at 19%). When removing 2006-2007 as an outlier in the TV sample, there is a significant difference between prevalence rates of drinking on TV versus prevalence rates of past month alcohol⁶ use among those aged 12+ in the U.S., $F(1,16) = 11.87$, $p = 0.003$. A possible interpretation from this is that, while efforts by federal and state governments and public health and community organizations to reduce underage drinking are making headway, the changes in the television environment in the opposite direction may be undermining and slowing prevention efforts.

One limitation of this study is that it cannot report on the complete prevalence of alcohol use on all TV programs, on all channels, during this period. However, an analysis

⁶ We used past 30-day alcohol use to compare with TV character prevalence of drinkers since SAMHSA considers past month alcohol users as “current drinkers”.

of the programs and episodes viewed by the greatest number of young people provides a strong basis for generalization. A second limitation is that we randomly selected one episode from each of the three sweeps seasons in each year, rather than coding entire seasons. We reasoned that these episodes would be the ones viewed by the greatest number of people, hence they would have the greatest reach. We used these episodes as representative of the season as a whole, which may not actually be the case.

Similar to the higher rates of violence seen on TV than in reality, and higher rates of affluence and product ownership on TV, viewers are seeing higher rates of drinking among the TV population, compared to real drinking rates. According to Cultivation theory (Gerbner, Gross, Morgan, Signorelli, & Shanahan, 2002), a heavy TV viewer's perception of reality is shifted towards the 'reality' they see on TV; a reality where there is more crime (Gerbner, Gross, Morgan, & Signorelli, 1980), more affluence (Shrum, O'Guinn, Semenik, & Faber, 1991) and more product ownership (O'Guinn & Shrum, 1997). The same could perhaps be inferred for the perception of rates of alcohol use. According to the Theory of Normative Social Behavior (Rimal & Real, 2005), the perception of higher rates of use (descriptive norms), over a long period of time, may be another way that TV portrayals of alcohol use are influencing its viewers to imbibe.

Future research should consider the influence and content of programs in the animated satire genre (Mittell, 2010). One content analysis looked at the health-related messages in nine seasons of *The Simpsons* (1988-1997) (Byrd-Bredbenner, 2004); however, more focus on the use of animation to convey messages is needed. The jump in alcohol content starting in the 2006-2007 TV season occurred in parallel with the jump in the number of animated satire programs appearing in the top 5 most viewed programs.

Many of these animated programs' main characters are male, heavy drinkers who are likely to be seen intoxicated and/or involved in a violent or illegal act related to their alcohol use (e.g., Homer Simpson, *The Simpsons*; Peter Griffin, *Family Guy*). Animated programming typically appeals to youth; however, the content on these programs is clearly adult-oriented. Future research should consider if the messages on these programs are interpreted any differently than if they were presented in non-animated programs, as well as whether viewers truly connect with, and model behavior after, these characters in the same way (or to the same extent) as with live-action.

Conclusions

The current study provides evidence of the increasing rates of alcohol content on popular prime-time TV popular among 12-20 years and further, provides evidence of a substantial increase in rates since the last study was done 30 years ago. The 10-year time trend analysis of alcohol content on TV started by Breed and De Foe (Breed & De Foe, 1981) and completed by Wallack et al. (1990) between 1976 and 1986 provided sound evidence at the time, for change in the way alcohol use was portrayed on TV. Breed and De Foe recognized the high water mark of alcohol use on prime-time TV and developed a process of exchange, termed "cooperative consultation," between alcohol researchers and TV writers and editors (Breed & De Foe, 1982). Their "goal was to educate television personnel in the area of alcohol and drinking." (p.90). The cooperative consultation process saw alcohol researchers reading scripts, providing content-area expertise and suggesting changes related to the way alcohol use was portrayed on TV. This

consultation was successful and resulted in change on popular TV programs such as *Three's Company*, *The Jeffersons* and M*A*S*H (Breed, De Foe, & Wallack, 1984).

The current study provides ample evidence for the need to re-introduce a new series of “cooperative consultations.” TV writers and editors were surprised when Breed and De Foe first shared their findings about the gratuitous nature of alcohol use on TV. Once they were made aware, however, many were willing to introduce change. Perhaps the same could happen today. Included in the cooperative consultations could be suggestions on stronger parental advisories for TV programs with alcohol content that also includes warnings and reminders of the dangers of alcohol use among youth. Even as rates of youth alcohol use decline in the US, there are still thousands of young people dying each year, with many more harmed socially, emotionally and physically (Miller et al., 2007). As media usage among youth continues to increase (Rideout et al., 2010) alongside the abundance of alcohol messages in these media, and the potential influence of these messages, introducing content change may once again be necessary.

References

- Anderson, P., de Bruijn, A., Angus, K., Gordon, R., & Hastings, G. (2009). Impact of alcohol advertising and media exposure on adolescent alcohol use: A systematic review of longitudinal studies. *Alcohol and Alcoholism, 44*(3), 229-243.
- Bahk, C. M. (2001). Perceived realism and role attractiveness in movie portrayals of alcohol drinking. *American Journal of Health Behavior, 25*(5), 433-446.
- Breed, W., & De Foe, J. R. (1981). The Portrayal of the Drinking Process on Prime-Time Television. *Journal of Communication, 31*(1), 58-67. doi: 10.1111/j.1460-2466.1981.tb01205.x
- Breed, W., & De Foe, J. R. (1982). Effecting Media Change: The Role of Cooperative Consultation on Alcohol Topics. *Journal of Communication, 32*(2), 88-99. doi: 10.1111/j.1460-2466.1982.tb00499.x
- Breed, W., De Foe, J. R., & Wallack, L. (1984). Drinking in the mass media: a nine-year project. *Journal of Drug Issues, 14*(4), 655-664.
- Byrd-Bredbenner, C. (2004). An internationally shared health frame of reference created by a television program: The Simpsons, a content analysis of health messages. *Health Education, 104*(1), 18-24.
- Carpenter, J. M., & Green, M. C. (2012). Flying with Icarus: Narrative transportation and the persuasiveness of entertainment. In L. J. Shrum (Ed.), *The psychology of entertainment media. Blurring the lines between entertainment and persuasion* (pp. 169-194). New York, NY: Routledge.

- Centers for Disease Control and Prevention. (2015). Alcohol-Related Disease Impact (ARDI) application, 2006-2010, from http://apps.nccd.cdc.gov/DACH_ARDI/Default/Default.aspx
- Christenson, P. G., Henriksen, L., & Roberts, D. F. (2000). Substance use in popular prime time television: Office of National Drug Control Policy.
- D'Amico, E. J., & McCarthy, D. M. (2006). Escalation and initiation of younger adolescents' substance use: the impact of perceived peer use. *Journal of Adolescent Health, 39*(4), 481-487. doi: 10.1016/j.jadohealth.2006.02.010
- DeJong, W., & Winsten, J. A. (1990). *The Harvard Alcohol Project: a demonstration project to promote the use of the "Designated Driver"*. Paper presented at the The 11th International Conference on Alcohol, Drugs and Traffic Safety, Chicago, Illinois.
- Duan, L., Chou, C. P., Andreeva, V. A., & Pentz, M. A. (2009). Trajectories of peer social influences as long-term predictors of drug use from early through late adolescence. *Journal of Youth and Adolescence, 38*(3), 454-465. doi: 10.1007/s10964-008-9310-y
- Gerbner, G., Gross, L., Morgan, M., & Signorelli, N. (1980). Aging with television: Images on television drama and conceptions of social reality. *Journal of Communication, 30*(1), 37-47.
- Gerbner, G., Gross, L., Morgan, M., Signorelli, N., & Shanahan, J. (2002). Growing up with television: the cultivation perspective. In J. Bryant & D. Zillman (Eds.), *Media effects: advances in theory and research* (pp. 43-67). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

- Gilbert, D. L. (2015). Social class in America *The American class structure in an age of growing inequality* (9th ed., pp. 1-20). Thousand Oaks, CA: Sage Publications, Inc.
- Hingson, R., Heeren, T., Zakocs, R., Winter, M., & Wechsler, H. (2003). Age of first intoxication, heavy drinking, driving after drinking and risk of unintentional injury among U.S. college students. *Journal of Studies on Alcohol*, 64(1), 23-31.
- Hingson, R. W., Edwards, E. M., Heeren, T., & Rosenbloom, D. (2009). Age of drinking onset and injuries, motor vehicle crashes, and physical fights after drinking and when not drinking. *Alcoholism: Clinical and Experimental Research*, 33(5), 783-790. doi: 10.1111/j.1530-0277.2009.00896.x
- Huckle, T., Huakau, J., Sweetsur, P., Huisman, O., & Casswell, S. (2008). Density of alcohol outlets and teenage drinking: living in an alcogenic environment is associated with higher consumption in a metropolitan setting. *Addiction*, 103(10), 1614-1621. doi: 10.1111/j.1360-0443.2008.02318.x
- Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (2015). Monitoring the Future national survey results on drug use: 1975-2014: 2014 Overview, key findings on adolescent drug use. Ann Arbor: Institute for Social Research, The University of Michigan.
- Manganello, J., Franzini, A., & Jordan, A. (2008). Sampling television programs for content analysis of sex on TV: How many episodes are enough? *Journal of Sex Research*, 45(1), 9-16.

- Mathios, A., Avery, R., Bisogni, C., & Shanahan, J. (1998). Alcohol portrayal on prime-time television: Manifest and latent messages. *Journal of Studies on Alcohol*, 59(3), 305-310.
- Miller, J. W., Naimi, T. S., Brewer, R. D., & Jones, S. E. (2007). Binge drinking and associated health risk behaviors among high school students. *Pediatrics*, 119(1), 76-85. doi: 10.1542/peds.2006-1517
- Mittell, J. (2010). Screening America *Television and American Culture* (pp. 269-304). New York: Oxford University Press, Inc.
- Murphy, S. T., Hether, H. J., & Rideout, V. (2008). How healthy is prime time? Menlo Park, CA: The Kaiser Family Foundation and The USC Annenberg Norman Lear Center's Hollywood, Health & Society.
- O'Guinn, T. C., & Shrum, L. J. (1997). The role of television in the construction of consumer reality. *Journal of Consumer Research*, 23(4), 278-294.
- Pechmann, C., Levine, L. Loughlin, S. and Leslie, F. (2005). Impulsive and self-conscious: adolescents' vulnerability to advertising and promotion. *American Marketing Association*, 24(2), 202-221.
- Propp, V. (1968). *Morphology of the Folktale*. Austin, TX: University of Texas Press.
- Quigley, B. M., & Collins, R. L. (1999). The modeling of alcohol consumption: a meta-analytic review. *Journal of Studies on Alcohol*, 60(1), 90-98.
- Rideout, V. J., Foehr, U. G., & Roberts, D. F. (2010). Generation M2. Media in the lives of 8-18 year olds. Menlo Park, CA: Henry J. Kaiser Family Foundation.

- Rimal, R. N., & Real, K. (2005). How behaviors are influenced by perceived norms. A test of the Theory of Normative Social Behavior. *Communication Research*, 32(3), 389-414.
- Rosner, B. (2011). *Fundamental of Biostatistics* (7th ed.). Boston, MA: Brooks / Cole.
- Russell, C., & Puto, C. (1999). Rethinking Television Audience Measures: An Exploration into the Construct of Audience Connectedness. *Marketing Letters*, 10(4), 393-407. doi: 10.1023/a:1008170406363
- Russell, C. A., Norman, A. T., & Heckler, S. E. (2004). People and "their" television shows: an overview of television connectedness. In L. J. Shrum (Ed.), *The psychology of entertainment media. Blurring the lines between entertainment and persuasion* (pp. 275-290). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Russell, C. A., & Russell, D. W. (2009). Alcohol Messages in Prime-Time Television Series. *Journal of Consumer Affairs*, 43(1), 108-128. doi: 10.1111/j.1745-6606.2008.01129.x
- Russell, C. A., Russell, D. W., & Grube, J. W. (2009). Nature and impact of alcohol messages in a youth-oriented television series. [Article]. *Journal of Advertising*, 38(3), 97-111.
- Shrum, L. J., O'Guinn, T. C., Semenik, R. J., & Faber, R. J. (1991). Process and effects in the construction of normative consumer beliefs: The role of television. In R. H. Holman & M. R. Solomon (Eds.), *Advances in consumer research* (pp. 755-763). Provo, UT: Association of Consumer Research.
- Smith, K. C., Cukier, S., & Jernigan, D. H. (2013). Regulating Alcohol Advertising: Content Analysis of the Adequacy of Federal and Self-Regulation of Magazine

- Advertisements, 2008-2010. *American Journal of Public Health*. doi: 10.2105/ajph.2013.301483
- Smith, L. A., & Foxcroft, D. R. (2009). The effect of alcohol advertising, marketing and portrayal on drinking behaviour in young people: Systematic review of prospective cohort studies. *BMC Public Health*, 9(51).
- Substance Abuse and Mental Health Services Administration [SAMHSA]. (2014). Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings *NSDUH Series H-48*. Rockville, MD: Substance Abuse and Mental Health Services Administration.
- Villani, S. (2001). Impact of media on children and adolescents: a 10-year review of the research. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40(4), 392-401. doi: 10.1097/00004583-200104000-00007
- Wallack, L., Grube, J. W., Madden, P. A., & Breed, W. (1990). Portrayals of alcohol on prime-time television. *Journal of Studies on Alcohol*, 51(5), 428-437.
- Wigston, D. (2001). Narrative analysis. In P. J. Fourie (Ed.), *Media studies Volume two: content, audiences and productino* (Vol. 2). Lansdowne, South Africa: Juta Education.
- Winsten, J. A. (1994). Promoting designated drivers: the Harvard Alcohol Project. *American Journal of Preventive Medicine*, 10(3 Suppl), 11-14.

Table 4.1 Gilbert-Kahl Model of the Class Structure

Class Level	Description	Character Example
Upper class	Independently wealthy, business owners, or heirs, with a typical income of \$2 million	Caleb Nichol, owner of the property and real estate company The Newport Group, on <i>The O.C.</i>
Upper-middle	Professionals (doctors, lawyers), upper managers, medium sized business owners with an income of approximately \$150,000	Meredith Grey, a doctor, on <i>Grey's Anatomy</i>
Middle class	Lower managers, semi-professionals, teachers, nurses, with a typical income of \$70,000	Phoebe, a masseuse, on <i>Friends</i>
Working class	Unskilled factory workers, office workers without specialized training, or retail workers with a typical income of \$40,000	Homer Simpson, a power plant worker, on <i>The Simpsons</i>
Working poor	Lowest paid manual, retail and service workers in jobs without pay benefits. Financially unstable because of their line of work as fast-food workers, unskilled construction workers, typically earning \$25,000	Lester Krinklesac, known as a "redneck" for his occupation, on <i>The Cleveland Show</i>
Underclass	Typically earn approximately \$15,000 and are dependent on government aid or commit crimes in order to sustain themselves	No regular characters in this sample

Table 4.2 Characters who performed at least one drinking act between 2002-2003 and 2011-2012

Demographics	Foreground Characters, N (%)	Main Characters, N (%)
Gender		
Male	170 (64)	47 (64)
Female	94 (36)	27 (36)
Total	264 (100)	74(100)
Age, years		
<10	4 (2)	1 (1)
11-17	9 (3)	5 (7)
18-20	11 (4)	6 (8)
21-34	82 (31)	23 (32)
35-64		139 (53)
37 (50)		
65+	16 (6)	0 (0)
NA	3 (1)	2 (3)
Race		
White	230 (87)	58 (78)
Black	14 (5)	6 (8)
Hispanic	6 (2)	5 (7)
Asian	5 (2)	2 (3)
Other	9 (4)	3 (4)
Class		
Upper	14 (5)	3 (4)
Upper-middle	73 (28)	34 (46)
Middle	75 (28)	13 (18)
Working	84 (32)	23 (31)
Working poor	16 (6)	2 (3)
Underclass	2 (<1)	0 (0)
Typology		
Hero		30 (68) ⁷
Helper		38 (46)
Villain		4 (57)
Princess		2 (67)

⁷ The calculated percentages in this category reflect the percentage of characters *of that typology* who performed at least one drinking act, e.g. 68% of all Hero-types performed at least one drinking act.

Figure 4.1 Total number of alcohol acts per hour by TV season

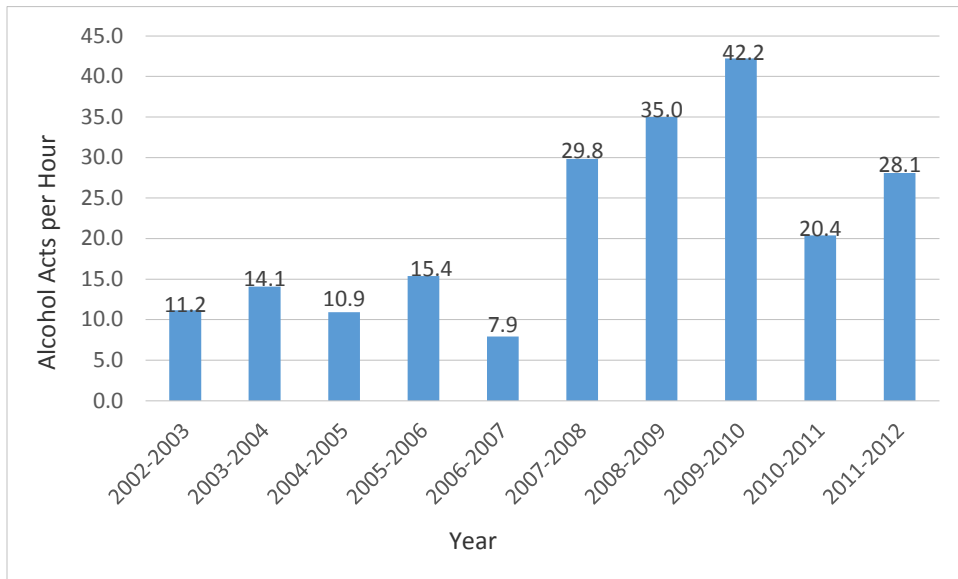


Figure 4.2 Total number of alcohol acts per hour by yearly sweeps seasons

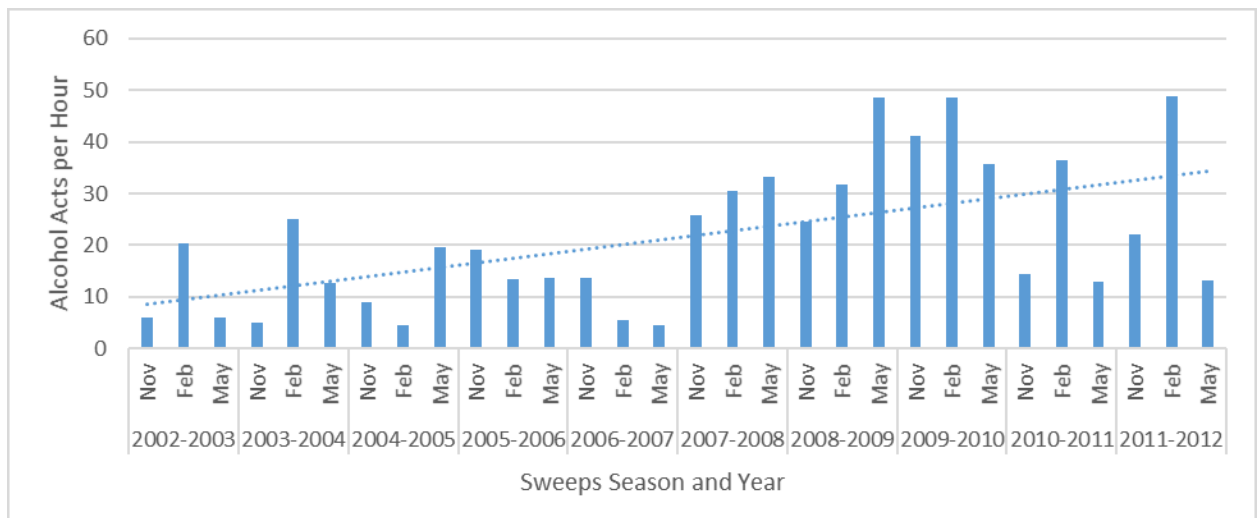
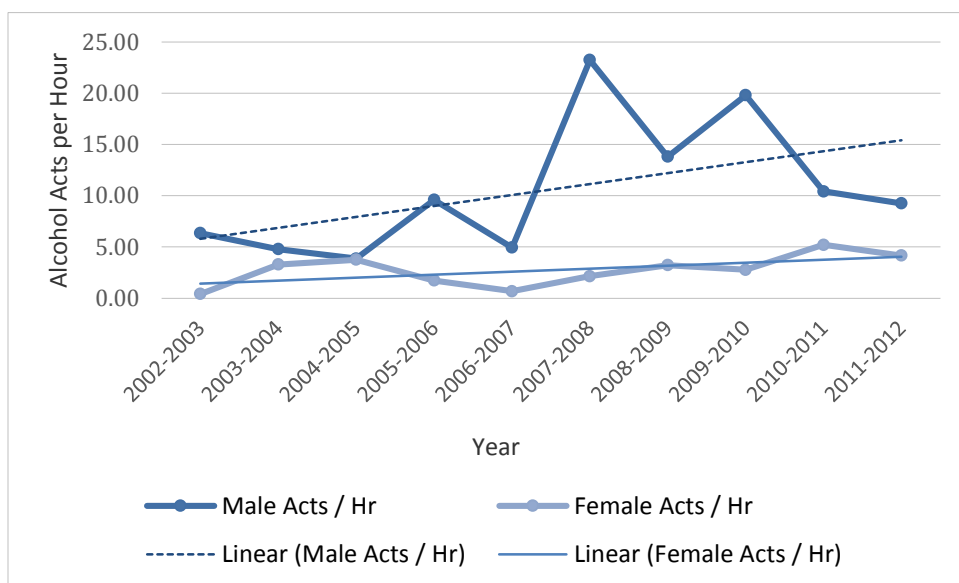


Figure 4.3 Foreground alcohol acts per hour by gender



Chapter 5: Normative messaging in alcohol use constructs on TV: content analysis of TV programs popular among youth, 2002-2012

Abstract

Objective: The aim of our study was to document how alcohol use is constructed in recurrent, stable, and overarching ways (“alcohol use constructs”) on TV programs most popular among youth in order to detect the presence or absence of normative messaging about alcohol use over 10 years of programming (2002 to 2012).

Method: We used Nielsen data to identify the top 5 most viewed programs by 12-20 year-olds in the U.S. for each year between 2002 and 2012. We performed a content analysis on a random sample of episodes taken from each of the sweeps seasons in each of the ten years. We captured the following elements of alcohol use constructs: the proportion of characters consuming alcohol in group settings, TV characters’ reasons for drinking, the location of drinking, the content and tone of discussions about alcohol, and depictions of the consequences of alcohol use.

Results: In group drinking situations, the majority of group members consumed alcohol. The reason most cited for drinking was to socialize, followed by reasons of celebration and then drinking for no specific reason other than to keep the character occupied. Most drinking occurred at home. Discussions about alcohol use were mostly positive and consequences of use were rarely portrayed.

Conclusion: Normalized messages about alcohol use on TV may be serving as guides for young people as they internalize constructed messages about alcohol use in the world around them. Youth drinking behaviors based on the modeling of this normalized use

may prove harmful to developing brains and bodies. The creative community has an opportunity to reduce or eliminate unnecessary portrayals of alcohol use on TV and instead provide more healthful messaging in order to reduce the risks current modeling poses for youth.

Introduction

Alcohol continues to be the drug of choice among young people and is responsible for 4,300 deaths in the US each year among persons under age 21 (Centers for Disease Control and Prevention, 2015). Although rates of binge drinking and current drinking among youth have been declining since 2002 (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014), approximately 14% of young people (5.4 million) aged 12-20 reported binge drinking in the last 30 days (5+ drinks in a sitting). This type of risky drinking is associated with having more problems in school, being sexually active, attempting suicide, and using other drugs (Miller, Naimi, Brewer, & Jones, 2007). As of 2014, approximately half of all students in 12th grade reported ever having been drunk (Johnston, O'Malley, Miech, Bachman, & Schulenberg, 2015). Early drinking initiation is often a marker for later alcohol dependence (Dawson, Goldstein, Chou, Ruan, & Grant, 2008; Grant & Dawson, 1997), unintentional injury (Hingson & Zha, 2009), driving after drinking, and alcohol-related motor-vehicle crashes (Hingson, Edwards, Heeren, & Rosenbloom, 2009).

Influences on alcohol use

A young person's decision to drink is influenced in part by his or her environment. Social factors such as peer-group norms and religion (Mason & Windle,

2001) play a role in shaping this environment as do family practices; for example, Nelson et al. (2009) found that in the U.S., prevalence rates of alcohol use by youth were correlated with adult prevalence rates between 1993 and 2005. Other factors that play a role in the decision to drink include: the alcohol control policies of the geographic region (Stockwell & Gruenwald, 2004; Xuan et al., 2015); neighborhood features including density of alcohol outlets and proximity to alcohol billboards and advertisements (Bryden, Roberts, McKee, & Petticrew, 2012; Murphy, Roberts, Ploubidis, Stickley, & McKee, 2014); alcohol marketing in multiple forms of media (systematic review by Anderson et al., (2009)), and more specifically exposure to alcohol in online content (Jernigan & Rushman, 2014; Leyshon, 2011; Nicholls, 2012), exposure to alcohol portrayals in movies (Hanewinkel et al., 2014; Hanewinkel et al., 2012; Koordeman, Kuntsche, Anschutz, van Baaren, & Engels, 2011), on the radio (Center on Alcohol Marketing and Youth, 2011), and on television (Atkinson, Bellis, & Sumnall, 2013; Austin & Meili, 1994; Engels, 2009; Moreno, 2011).

The influence of media on alcohol consumption

Researchers are paying greater attention to the impact of media in particular on behavior, as our environment becomes more saturated with media messages (Strasburger & Hogan, 2013; Strasburger, Jordan, & Donnerstein, 2012), and television plays an important role in shaping this message environment. Young people in the U.S., aged 12-17 and 18-24, continue to spend the majority of their media-use time watching television content (Nielsen, 2015). The Cultivation Perspective posits that as a result of its wide reach, television creates and provides a “shared culture” that is experienced by a majority of American society (Gerbner, Gross, Morgan, Signorelli, & Shanahan, 2008).

Cultivation analysis looks for “recurrent, stable, and overarching television content” (p.49) or aggregate messages, sometimes termed *constructs*, relayed by television, rather than any specific occurrences on particular programs. When these messages have to do with alcohol use, *alcohol-use constructs* are created in the minds of viewers. Gerbner and colleagues found that continued exposure to TV cultivated values and perspectives proffered by TV programs among heavy viewers. This occurs, however, as a dynamic process, not simply as a passive acceptance of what is presented on TV. Depending upon the viewers’ contexts and experiences, the messages in the media may influence the individual differently (Gerbner, 2008).

Bargh and colleagues (1986) explored the idea of *constructs* first identified in the works of George Kelly and Jerome Bruner, fathers of cognitive psychology. Bargh et al. explained that we create “mental constructs, or categories, out of the necessity to cope effectively and adaptively with an overabundance of complex information.” (p. 869). These mental constructions are based on our social experiences, which makes every construct unique. Part of our social experience is what we see on TV. In this study we were interested in the elements we see on TV that have potential to contribute to the creation of an individual’s alcohol use construct, i.e., the content and context of alcohol use. These elements are important to identify because a viewer’s recall and processing of the construct may be predictive of future behavior, when in a similar context (Kelly, 1991). For example, if a TV viewer comes to understand that alcohol use is part of most social situations, as he or she sees on TV, the viewer will incorporate and internalize this information into his or her constructed idea of what is alcohol use. When an individual considers his or her *reason for drinking*, e.g., drinking is used when socializing, this is

one element of the alcohol use construct. A more in-depth understanding of the elements that contribute to an individual's perception of the alcohol use construct can lead to the more precise construction of interventions to influence that use.

Transportation Theory

Transportation Theory (Gerrig, 1993; Green & Brock, 2000) provides further support for a special focus on TV programs. Different from short advertisements or images in magazines or on billboards, TV narratives offer greater opportunities for ardent viewers to be *transported* into the storylines of programs (Green & Brock, 2000).

Narrative transportation (Carpenter & Green, 2012) or “transportation into a narrative world” (Green & Clark, 2013) occurs when the viewer immerses himself or herself into the life of the character. This takes place as a result of the combined effect of: a) the quality of the story; b) the medium in which the story is delivered -- the more imaginative the imagery, the more likely transportation will occur, either self-generated via one's imagination or through multimedia; and c) the audience member and his or her level of transportability (see Green & Brock (2002); Dal Cin, Zanna, & Fong, (2004)). When a viewer is transported into the storyline of a TV program, he or she is more likely to take on or model his or her attitudes, beliefs, and behaviors on those of the characters therein (Green & Clark, 2013).

Green and Clark (2013) reviewed studies of transportation effects in movies. They concluded that a narrative transportation framework would be useful in understanding the mechanisms through which media portrayals of smoking or other addictive behaviors (e.g., alcohol use) may influence attitude, belief, and behavior change among viewers. They consider the theoretical premise that understanding the conditions that underlie

narrative transportation may help advance the media effects literature, i.e., how media portrayals affect behavior, as well as contribute to designing interventions to reduce harmful behaviors.

Social Cognitive Theory

Social Cognitive Theory adds a learning component to behavior modeling that occurs in one's immediate environment, in this case the modeling of behaviors observed in the media (Bandura, 2001). The symbolic environment on TV becomes more relevant with its prominent presence as well as its provision of new thoughts and ideas that go beyond what an individual may see, hear and experience in his or her daily real life.

Brown, Halpern and L'Engle (2005) used the term "super-peers" to describe characters in the media who act as pseudo-peers for viewers and offer normative modeling about behaviors that are not necessarily being modeled by actual peers.

Reasons for drinking

Within a larger framework of personal historical (e.g., culture, personality), situational (e.g., availability, peer drinking, modeling) and cognitive (e.g., perceptions, memories) factors, Kuntsche et al. (2005) reviewed 15 years of research (1989 to 2004) and found that reasons for drinking fall into one of three broad categories: to enhance one's positive mood, for social motives (positive, as in to be social or negative, as in to fit in), or as a coping mechanism.

Another consideration, not specified in the reasons for drinking literature, is to drink for no specific reason, rather, to drink as a normal, everyday and unremarkable behavior. Atkinson and her colleagues (2011) completed a content analysis of alcohol use on TV programs popular among youth (11-18 years old) in a single year, 2009, as well as

online and in magazines. They found “[d]rinking was largely portrayed as a normal part of the lives and interactions of characters” (p.20). In a content analysis of alcohol portrayals in narratives in women’s and men’s magazines, Lyons and Hoy (2006) found that one of the three main themes that emerged from their textual analysis (articles, letters, etc.) was “drinking as normality” (p.226). This manifested as stories including women drinking with girlfriends or as part of everyday activities, drinking as a normal part of the workday, or drunkenness as an activity that most people will have engaged in at some point in their lives.

Normalization

One of the six indicators on the normalization scale conceptualized by Parker (2005), originally intended to measure the normalization of illicit drug use, is the “cultural accommodation” of alcohol use in youth-oriented film, TV and music. Parker describes this as a shift in the way drug use is presented on TV or in other media, as becoming more accepted; the measure of normalization then becomes the “barometer of change” (p.208). Recent content analyses have demonstrated high levels of alcohol use on TV programs (Byrd-Bredbenner, 2004; Christenson, Henriksen, & Roberts, 2000; Murphy, Hether, & Rideout, 2008; Russell & Russell, 2009; Russell, Russell, & Grube, 2009) and more recently, Cukier and colleagues (manuscript in preparation) found a steady increase over time in the level of alcohol content on series TV between 2002 and 2012. We explain normalization of alcohol use, then, as portrayed as being highly prevalent in society, and used in all manners of situations, not only on special occasions. When a product is normalized in society, there are fewer cultural or actual restrictions on its use (Connolly, Casswell, Zhang, & Silva, 1994). With fewer restrictions, in the case of

alcohol, rates of use may increase, and as a consequence, the harms will likely increase as well (Anderson, Chisholm & Fuhr, 2009). Normalization of alcohol use on TV, therefore, can have direct health and health policy consequences. The portrayal of alcohol use, on its own, however, is not the only marker of normalization, as has been documented by other content analyses (above). In this study we sought to look at other markers of the “cultural accommodation” of alcohol use on the TV programs watched most by youth, in order to begin to address the dearth of literature identifying alcohol use constructs as markers of normalization.

Previous content analyses have recorded alcohol use by TV character and by scene (see examples above); however, to the authors’ knowledge, none has looked specifically at markers of normalization as elements that may contribute to an alcohol use construct that in turn may encourage behavior modeling according to the Cultivation Perspective, Transportation Theory, and Social Cognitive Theory. The aim of our study, therefore, was to document elements on TV programs most popular among youth that may contribute to the alcohol use constructs internalized by young people. We looked for the presence or absence of normative messaging about alcohol use contained within elements of alcohol use constructs over 10 years of programming (2002 to 2012). More specifically, we documented: 1) the proportion of characters consuming alcohol in group settings, as a possible marker of normalization; 2) the reasons characters were drinking, also to document possible normalization; 3) the location of drinking, to explore the presentation of the environment of alcohol use, and as other possible markers of normalization; 4) the content and tone of discussions about alcohol use; and 5) the consequences of alcohol use to the drinker and to those around the drinker.

Methods

There are approximately 350 different scripted original TV programs that air in a single year (Travers, 2014). In order to make this universe workable for research, we used Nielsen ratings data (Nielsen Inc., New York, NY) first to identify the five scripted TV programs with the largest number of 12-20 year-old viewers airing during primetime on four U.S. broadcast networks (ABC, CBS, NBC, FOX), in each of ten television seasons from 2002-2003 to 2011-2012⁸. We sampled from broadcast networks only, since they attract the largest audiences (Nielsen Inc., New York, NY). Although cable TV had a U.S. household penetration rate of 90% by 2011 (Television Bureau of Advertising, 2012), the number of viewers of network TV, specifically for highly-rated youth audience shows, was still approximately eight times greater for network programs versus cable programs⁸.

We then drew a random sample of three episodes from each of the three highest-rated sweeps seasons⁹ from each of the five TV programs for each year for an in-depth analysis. Although there is no gold standard for sampling in content analyses, Manganello et al. (2008) found that coding three episodes over a full TV season would be sufficient to represent the entire season, for program-level analysis. Our sampling frame generated three episodes for each program, each year, for a total of 15 episodes for each of the ten, 1-year study periods, resulting in 150 episodes for the content analysis. In this way we sought to create a sample that was indicative if not fully representative of alcohol

⁸ © 2012 The Nielsen Company. Ratings and other data contained herein are the copyrighted property of The Nielsen Company.

⁹ Sweeps seasons occur in November, February, May and July when Nielsen ratings are collected through TV diaries in representative households. Advertising rates for commercials are determined based on these ratings, therefore TV episodes airing during these periods are typically the most guest-star studded or most highly anticipated which then attract the largest audiences

depictions in entertainment content likely to have been seen by young people. We viewed TV programs through the online sources Netflix, Amazon Instant and other online streaming sources when TV programs were not available on Netflix or Amazon.

We used the codebook created by Cukier et al. (manuscript submitted) to capture alcohol-related content on each TV episode. Two coders trained in the use of the codebook subsequently viewed and coded TV shows from the selected sample. For three of the 10 one-year periods both coders coded all episodes and reliability checks were conducted (see below). Because role-modeling of individual characters is important as well as the contexts in which characters drink, we coded both by character and by scene. In order to document the prevalence of alcohol use within a group setting, for every alcohol-involved scene, we counted the total number of people in the foreground of the scene, and the number of people *preparing to drink* (ordering, pouring, accepting, holding a drink [but not ingesting], having a drink nearby, or carrying a closed single serve alcohol container) or *ingesting* an alcoholic beverage or a non-alcoholic beverage (a character putting his or her mouth to the beverage container and swallowing the beverage, including sips).

For every alcohol act (preparation to drink or ingestion of alcohol) by a foreground character (those who are the main focus of the scene or who have speaking roles), we coded for the reason the character was drinking (only one main reason for each drinking occasion): socializing, celebrating, as a reward, to accompany a meal, to suppress problems, for relaxation (a verbal or visual cue that the reason for drinking was relaxation, e.g., the character explicitly states that his or her drinking is in order to relax, or the character comes home after work, breathes a sigh of relief and consumes an

alcoholic beverage), to socialize with work colleagues (at work), to facilitate a sexual relationship (a visual or verbal cue that the purpose of drinking is to “get in the mood” or a character explicitly stating that he or she is drinking to make it easier to advance sexually with a partner), to facilitate another kind of relationship, and for no specific reason other than keeping the character occupied (either alone or in a group). We coded the location where the character was drinking, either in private, e.g., in a house, at school, or at work; or in public, e.g., outside, in a bar, or in a restaurant. We coded for discussions about alcohol and noted if the discussion relayed a positive, negative, neutral, or mixed tone, according to the perspective of the speakers. For example, if two characters were having a conversation about the previous night’s drinking experience, and both relayed positive sentiments about the event, we coded this discussion as positive. If one spoke positively and the other discussed how much she disliked drinking, for example, we coded this conversation as mixed. Finally, we coded for the consequences of alcohol use both to the drinker and to those around the drinker. We coded health consequences, positive or negative; social consequences, positive or negative; mixed consequences; and no consequences at all.

Reliability

Two coders (authors 1 and 2) used and revised the codebook as necessary while learning the rules for coding as part of the coder training. We used TV episodes that were not part of the coding sample to go through the rules. The coders first coded episodes separately and then came together to compare results and discuss discrepancies, as a second stage of training. Once we settled the discrepancies and included more detailed coding rules to the coding rulebook, and agreed on each variable’s definition, the two

coders used the finalized codebook to continue to code episodes, as a third stage of training. This continued until we reached a level of agreement of 95% or above for all variables. From this point, author 1 began coding the actual sample.

To assess and ensure reliability, we used STATA version 11.2 (StataCorp LP, College Station, TX) to calculate Cohen's Kappa at three points during the coding process: after coding the episodes from the first, fifth, and tenth years of the sample. At all three times, Kappa scores ranged from 0.70 to 0.95 for all variables. We entered all data into Excel spreadsheets and then transferred the data into STATA for analysis.

Results

In total we coded 150 TV episodes from 50 TV programs over the 10-year study period. Of the 50 programs, 21 were of the animated satire genre, e.g., *The Simpsons*, *Family Guy*. There were 18 unique programs, including 13 programs that repeated over multiple years (see Table 3.2 in Chapter 3).

Number of drinking occasions

Out of the 150 episodes in the study sample, 108 (72%) contained drinking or an act of preparing to drink by at least one character in the foreground of a scene. Over the 10-year study period, there were 430 occasions in which at least one character either prepared to drink or ingested an alcoholic beverage in the foreground of a scene, an average of three occasions per episode. On 395 (92%) of these occasions, the character was with at least one other person; for the remainder of the drinking occasions ($n = 35$, 8%), a character drank alone. Across the entire study period, in the plurality of occasions ($n = 168$, 38%) when there was a drinking act in the foreground of the scene, between 76

and 100% of the people in the foreground group were drinking an alcoholic beverage as well. On 75 (17%) of the drinking occasions, at least one other character was drinking a non-alcoholic drink.

Reasons for Drinking

Over the ten-year study sample, the reason most often noted for drinking was in order to socialize (n = 259, 39%). This was followed by celebrations (n = 101, 15%) and then drinking for no specific reason other than keeping the character occupied (n = 88, 13%). In the first three years of the study sample (2002-2003, 2003-2004, 2004-2005), the majority of drinking occasions were for reasons of celebration (n = 12, 36%; n = 20, 54%; n = 18, 37%). For example, on an episode of *That 70s Show* (2003-2004), the main characters Steven, Michael, Fez and Eric all drank to celebrate Eric's bachelor party at a strip club. Another example was on an episode of *Desperate Housewives* (2004-2005), where the main characters, Carlos, Edie, Bree, and Rex drank at a large barbeque celebrating Carlos's going away.

For the next 6 out of 7 years, the reason most often noted for drinking was socializing. Examples include: Brian, Peter, Cleveland, Joe, and Quagmire, all main and occasional characters on *Family Guy* (2005-2006) getting together at their local bar for drinks, as a regular meeting spot; on an episode of *The Simpsons* (2005-2006), main character Homer and occasional characters Lenny and Carl getting together in their local bar to talk; main characters on *The Office* (2008-2009) Andy and Oscar meeting to have drinks at a bar; and in a 2009-2010 episode of *The Cleveland Show*, main characters Cleveland, Lester, Tim, and Holt getting together at their local bar to have drinks, sit and talk.

In 2007-2008, in 50% (n =42) of the drinking occasions there were no obvious reasons for drinking; rather, characters were drinking just to keep themselves occupied. For example, on *King of the Hill*, main characters Jeff, Hank, Bill and Dale drank beer while building a shed in the backyard. On another episode, Jeff and Dale drank beer while Hank fixed his truck. On an episode of *Family Guy*, Peter, one of the main characters, sat on the couch, on his own, and asked his wife Lois to bring him a beer.

Location of drinking

The majority of the 430 foreground drinking occasions over the 10-year study period occurred inside a house or in the front or backyard of a house (n = 179, 42%). The next most common drinking location was in a bar (n = 123, 29%), followed by drinking in a public location outside, such as in a park (n = 47, 11%). For all years of the study, the most prevalent drinking location was inside a house, except for 2005-2006 and 2011-2012 where drinking most often occurred in a bar (n = 9, 36%; n = 42, 51%).

Discussions about alcohol

There were 250 discussions including a mention of alcohol across the 150 episodes in the 10-year study period. For the majority of these discussions (n =143, 57%), characters spoke positively about alcohol. This pattern held consistently over the ten years of the study sample. One example of a positive discussion about alcohol is from a 2011-2012 episode of *Modern Family* where Claire, one of the main characters, is visibly startled to see an old ex-boyfriend, Robbie, who visits her home. With a smile on his face, Robbie says, “*Maybe a fuzzy naval wine cooler will loosen you up. It sure used to!*”

Characters spoke negatively about alcohol in 21% (n =53) of discussions. For example, in a 2008-2009 episode of *Family Guy*, one of the main characters, Brian (the

dog), wakes up, startled, in a hotel room with a woman he met the night before. Brian says, *“I had a lot to drink last night and so if I did anything to offend you, I’m sorry.”* There were 39 (16%) discussions where characters spoke neutrally about alcohol, for example, a suspect on a 2002-2003 episode of *CSI* responded to a question from a police officer saying, *“We had drinks afterwards. That was it.”* In 15 (6%) discussions, characters spoke both positively and negatively about alcohol within the same conversation. On a 2003-2004 episode of *The Simpsons*, Willy the janitor, one of the occasional recurring characters is driving his tractor at the school where he works, as part of his job. He is singing about how he copes with his day to day life: *“I’m so drunk I can barely see. But it helps me get through another day.”*

Consequences of Alcohol Use

The pattern of consequences to the drinking character was consistent from year to year. For the large majority of drinking acts by foreground characters ($n = 547$, 83%), drinking had no impact on the drinking character either positively or negatively. Many examples of friends getting together in bars or in homes, and drinking, showed no consequences to the drinking character. On *King of the Hill*, an animated satire program, every episode’s opening credits run over the background of the four main characters standing by the curb of a house, ingesting on average six cans of beer each. No consequences of drinking are shown to any of these drinking characters. Although this is a short scene, viewers are exposed to the start and end of the drinking occasion. During this entire period, there is no visible sign of any change in the characters’ behaviors.

For 7% ($n = 46$) of the drinking acts, there were positive social consequences for the drinking character. For example, Kirsten, a main character on *The O.C.* (2004-2005),

is married but is making a romantic dinner for herself and a male friend. After starting their second bottle of wine, Kirsten and her friend touch and continue flirting, acknowledging the wine they have consumed which is facilitating their sexual relationship – a positive social consequence from the characters' perspective. Only 3% (n = 22) of drinking acts showed negative social consequences. Negative health consequences to the drinking character were shown in 4% (n = 27) of the drinking acts. Only 1% (n = 7) of drinking acts portrayed a positive health consequence for the drinker from his or her drinking. For instance, on *The Cleveland Show* (2009-2010), when the main characters were drinking in a bar, got into a fight and the character, Lester, was hurt. When taken to the hospital, the attending doctor prescribed shots of alcohol to ease his pain.

Similarly, consequences of drinking to those around the drinking character were not portrayed in a large majority of drinking occasions. Over the ten-year study sample, in 87% (n = 574) of drinking acts, there were no consequences to those around the drinker. For 6% (n = 38) of the drinking acts, there were positive social consequences experienced by those around the drinker. Four percent (n = 27) of episodes showed negative social consequences. In 12 instances (2%) there were negative health consequences portrayed by characters around the drinker. Less than 1% of drinking acts showed mixed consequences to those around the drinker. Again, the same pattern was apparent each year.

Discussion

Alcohol use is clearly normalized on television programs popular with young people. Across the 150 episodes in our sample, 72% (n=108) contained a drinking act by

at least one character in the foreground of a scene, with an average of three such drinking occasions per episode, and negative consequences of those drinking acts, for the drinker or those around him or her, were rare. Drinking was portrayed as a normal and frequent part of American home life, occurring most frequently in groups by the majority of group members and in essence an essential component of socializing. This frequent, normalized use is occurring on TV programs, when in reality, only 52% of Americans reported using alcohol in the past month in 2012 (SAMHSA, 2013), which was the last year of our TV sample. The disconnect between the reality into which viewers are transported, and the reality of life may be difficult to reconcile for young people as they take their behavior cues from TV.

Aside from showing alcohol use as a normal part of social activity, the third most frequently noted reason for drinking in this study was for no obvious reason; rather, characters were drinking just to keep themselves occupied. The addition of an alcoholic beverage to a character watching TV (*The Simpsons*, *New Girl*), or while recording an audio-book for a gift (*Modern Family*) or while playing board games with kids (*American Dad*) is a further demonstration of the portrayal of alcohol use as normal parts of characters' everyday lives.

Most of the alcohol consumption occurred in group settings where only a few characters were ever shown drinking non-alcoholic beverages; instead, non-alcohol-drinking characters drank nothing. The group setting for drinking matched our findings that characters drank mostly for reasons of celebration or socializing. However, it is important to recognize that TV programs are created based on the drama between people; therefore group settings for drinking may be a function of the creation of drama rather

than anything else. This element of the alcohol use construct could still convey to viewers, however, that drinking is a social activity and alcohol is a normal part of that activity. Positive discussions about alcohol use and few consequences of use add to the alcohol use construct and paint a picture of an environment that tolerates and even invites its members to take part in drinking activities.

This content analysis looked only at alcohol use on broadcast networks and only those TV programs most watched by young people – a limitation of the study. This means that we did not account for programming on all other cable and specialty channels. A further limitation is that in randomly selecting three episodes from each TV program, rather than coding all episodes for each year, we are expecting these episodes to be representative of the whole season. However, the high number of drinking occurrences found in this random sample is suggestive of a high level of normalization of drinking on these programs. Future studies could expand upon this methodology and include a greater number of episodes, programs, and channels in the coding sample. Youth responses to these messages could be explored by conducting a receiver-oriented content analysis using young people as the coders (Austin, Pinkleton, & Fujioka, 1999), or adding a qualitative component to the current research through, for example, a focus group study asking a sample of young people to comment on the normalized aspects of alcohol use on these episodes and how the portrayals impact their own drinking behaviors.

More experimental research is warranted here as well. Looking more closely at the mechanisms underlying the ways people process media portrayals of drinking via narrative transportation would add to the literature on behavior modeling. Van Laer et al. (2014) developed an Extended Transportation-Imagery Model after conducting a meta-

analysis of antecedents and consequences of narrative transportation, two additional components not originally part of the model by Green and Brock (2002). Future research should test this new model by looking at individual differences in antecedents (the narratives themselves and the characteristics of the viewer) and consequences (changes in intention, attitude, and behavior) among adolescents and young people versus adults, and the resulting level of narrative transportation. Furthermore, considering the extent to which animated TV shows populate popular youth programming, future studies could test the degree to which animated versus non-animated programming influences behavior.

Conclusions

Although the mechanisms through which TV programming influence viewer behavior are not fully understood, the principles of Cultivation Theory, Transportation Theory, and Social Cognitive Theory suggest that modeling of TV super-peers within an environment of normalized alcohol use should be of concern. Normalized messages about alcohol use are the constructs that serve as guides for young people as they learn about the world around them. The boundaries between the real world and the world as seen on TV often become blurred when viewers become heavily engaged in their TV programs and in the day-to-day lives of their favorite characters (Russell, Norman, & Heckler, 2004).

The ‘alcogenic’ environment (Huckle, Huakau, Sweetsur, Huisman, & Casswell, 2008) in which we live provides many messages about alcohol use, few of which are realistic. The alcohol use constructs provided by TV narratives between 2002 and 2012 served to normalize alcohol use. This is problematic for young people, the impressionable

risk-takers, whose brains are impacted both physically and socially by alcohol use (Masten, Faden, Zucker, & Spear, 2008; Miller et al., 2007). The Cultivation Perspective tells us that we have a powerful opportunity to use the wide reach of television to send influential messages to our young people about the world around them. Currently we are telling them that alcohol use is normal, almost everyone participates, discussions about use are mostly positive, and there are few consequences of use or over-use. Television writers and the creative community could use this opportunity to send more realistic messages about alcohol use. Television programming could include negative health and social consequences that result from a person's use of alcohol. Alcohol use that serves no purpose could be eliminated from TV programs, especially those popular among youth. And governmental and non-governmental organizations could make more use of counter-marketing to balance this message environment, as has been shown to be effective in influencing youth tobacco use (Hersey, Niderdeppe, Ng, Mowery, & Messeri, 2005).

In the late 1970s and early 1980s there was a move to make change on television with regards to the unrealistic and gratuitous portrayal of alcohol use. Alcohol researchers Warren Breed and James De Foe (1982) initiated a "cooperative consultation process" where they worked with TV writers and editors to introduce more realistic messages about alcohol use on some of the most popular TV programs. They were successful in their pursuit. However, this process was not institutionalized, and has faded away over time, despite efforts by Breed and De Foe to publish and thereby publicize their recommendations to the TV industry (De Foe & Breed, 1988). We are now again faced with a similar situation where many alcohol use messages on TV reflect unrealistic scenarios and convey alcohol use as normal and mostly without consequence. With the

help of the public health community, we need to re-invigorate discussions about changes to television programming and introduce a new cooperative consultation process. A possible first step would be to open discussions with the Hollywood, Health & Society program at the USC Annenberg Norman Lear Center (hollywoodhealthandsociety.org). This research center provides health information to entertainment industry professionals so that health-related storylines are portrayed accurately in the media. It would be instructive to find out if industry professionals have shown an interest in the portrayal of alcohol use in any media. Building bridges with this organization and through it to TV writers and producers would be instrumental in this pursuit. With evidence from this study and others like it, we have the information necessary to engage in this dialogue. As long as alcohol use constructs on TV portray normalized, inconsequential use, we risk these messages becoming the ones that our young people internalize. Harms from underage drinking are severe, and in the case of TV's influential sphere, there are ways to reduce the risks.

References

- Anderson, P., Chisholm, D., & Fuhr, D. C. (2009). Effectiveness and cost-effectiveness of policies and programmes to reduce the harm caused by alcohol. *The Lancet*, 373(9682), 2234-2246.
- Anderson, P., de Bruijn, A., Angus, K., Gordon, R., & Hastings, G. (2009). Impact of alcohol advertising and media exposure on adolescent alcohol use: A systematic review of longitudinal studies. *Alcohol and Alcoholism*, 44(3), 229-243.
- Atkinson, A., Elliott, G., Bellis, M., & Sumnall, H. R. (2011). Young people, alcohol and the media. York, UK: Joseph Rowntree Foundation.
- Atkinson, A. M., Bellis, M., & Sumnall, H. (2013). Young peoples' perspective on the portrayal of alcohol and drinking on television: Findings of a focus group study. *Addiction Research & Theory*, 21(2), 91-99. doi:10.3109/16066359.2012.687795
- Austin, E. W., & Meili, H. K. (1994). Effects of interpretations of televised alcohol portrayals on children's alcohol beliefs. [Article]. *Journal of Broadcasting & Electronic Media*, 38(4), 417.
- Austin, E. W., Pinkleton, B. E., & Fujioka, Y. (1999). Assessing prosocial message effectiveness: effects of message quality, production quality, and persuasiveness. *Journal of Health Communication*, 4(3), 195-210.
- Bandura, A. (2001). Social Cognitive Theory of Mass Communication. [Article]. *Media Psychology*, 3(3), 265-299.

- Bargh, J. A., Bond, R. N., Lombardi, W. J., & Tota, M. E. (1986). The additive nature of chronic and temporary sources of construct accessibility. *Journal of Personality and Social Psychology*, 50(5), 869-878. doi: 10.1037/0022-3514.50.5.869
- Breed, W., & De Foe, J. R. (1982). Effecting Media Change: The Role of Cooperative Consultation on Alcohol Topics. *Journal of Communication*, 32(2), 88-99. doi: 10.1111/j.1460-2466.1982.tb00499.x
- Brown, J. D., Halpern, C. T., & L'Engle, K. L. (2005). Mass media as a sexual super peer for early maturing girls. *Journal of Adolescent Health*, 36(5), 420-427. doi: 10.1016/j.jadohealth.2004.06.003
- Bryden, A., Roberts, B., McKee, M., & Petticrew, M. (2012). A systematic review of the influence on alcohol use of community level availability and marketing of alcohol. *Health and Place*, 18(2), 349-357. doi: 10.1016/j.healthplace.2011.11.003
- Byrd-Bredbenner, C. (2004). An internationally shared health frame of reference created by a television program: The Simpsons, a content analysis of health messages. *Health Education*, 104(1), 18-24.
- Carpenter, J. M., & Green, M. C. (2012). Flying with Icarus: Narrative transportation and the persuasiveness of entertainment. In L. J. Shrum (Ed.), *The psychology of entertainment media. Blurring the lines between entertainment and persuasion* (pp. 169-194). New York, NY: Routledge.
- Center on Alcohol Marketing and Youth. (2011). Youth exposure to alcohol product advertising on local radio in 75 U.S. markets, 2009. Baltimore, MD: Johns Hopkins Bloomberg School of Public Health.

- Centers for Disease Control and Prevention. (2015). Alcohol-Related Disease Impact (ARDI) application, 2006-2010, from http://apps.nccd.cdc.gov/DACH_ARDI/Default/Default.aspx
- Christenson, P. G., Henriksen, L., & Roberts, D. F. (2000). Substance use in popular prime time television: Office of National Drug Control Policy.
- Connolly, G. M., Casswell, S., Zhang, J., & Silva, P. (1994). Alcohol in the mass media and drinking by adolescents: A longitudinal study. *Addiction Research & Theory*, 89(10), 1255-1263.
- Dal Cin, S., Zanna, M. P., & Fong, G. T. (2004). Narrative persuasion and overcoming resistance. In E. S. Knowles & J. A. Linn (Eds.), *Resistance and persuasion* (pp. 175-191). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Dawson, D. A., Goldstein, R. B., Chou, S. P., Ruan, W. J., & Grant, B. F. (2008). Age at first drink and the first incidence of adult-onset DSM-IV alcohol use disorders. *Alcoholism: Clinical and Experimental Research*, 32(12), 2149-2160. doi: 10.1111/j.1530-0277.2008.00806.x
- De Foe, J. R., & Breed, W. (1988). Youth and Alcohol in Television Stories, with Suggestions to the Industry for Alternative Portrayals. *Adolescence*, 23(91), 533.
- Engels, R. C., Hermans, R., van Baaren, R.B., Hollenstein, T., Bot, S.M. . (2009). Alcohol portrayal on television affects actual drinking behaviour. *Alcohol and Alcoholism*, 44(3), 244-249.
- Gerbner, G., Gross, L., Morgan, M., Signorelli, N., & Shanahan, J. (2008). Growing up with television: Cultivation processes. In J. Bryant & D. Zillman (Eds.), *Media*

- effects: Advances in theory and research* (2nd ed., pp. 43-68). Mahwah, NJ: Lawrence Erlbaum Associates.
- Gerrig, R. J. (1993). *Experiencing narrative worlds*. New Haven: Yale University Press.
- Grant, B. F., & Dawson, D. A. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse, 9*, 103-110.
- Green, M. C., & Brock, T. C. (2000). The role of transportation in the persuasiveness of public narratives. *Journal of Personality and Social Psychology, 79*(5), 701-721.
- Green, M. C., & Brock, T. C. (2002). In the mind's eye: Transportation-imagery model of narrative persuasion. In J. J. Strange (Ed.), *Narrative impact: social and cognitive foundations* (pp. 315-341). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Green, M. C., & Clark, J. L. (2013). Transportation into narrative worlds: implications for entertainment media influences on tobacco use. *Addiction, 108*(3), 477-484. doi: 10.1111/j.1360-0443.2012.04088.x
- Hanewinkel, R., Sargent, J. D., Hunt, K., Sweeting, H., Engels, R. C., Scholte, R. H., . . . Morgenstern, M. (2014). Portrayal of alcohol consumption in movies and drinking initiation in low-risk adolescents. *Pediatrics, 133*(6), 973-982. doi: 10.1542/peds.2013-3880
- Hanewinkel, R., Sargent, J. D., Poelen, E. A., Scholte, R., Florek, E., Sweeting, H., . . . Morgenstern, M. (2012). Alcohol consumption in movies and adolescent binge

- drinking in 6 European countries. *Pediatrics*, 129(4), 709-720. doi: 10.1542/peds.2011-2809
- Hersey, J. C., Niderdeppe, J., Ng, S. W., Mowery, P., & Messeri, P. (2005). How state counter-industry campaigns help prime perceptions of tobacco industry practices to promote reductions in youth smoking. *Tobacco Control*, 14(6), 377-383.
- Hingson, R. W., Edwards, E. M., Heeren, T., & Rosenbloom, D. (2009). Age of drinking onset and injuries, motor vehicle crashes, and physical fights after drinking and when not drinking. *Alcoholism: Clinical and Experimental Research*, 33(5), 783-790. doi: 10.1111/j.1530-0277.2009.00896.x
- Hingson, R. W., & Zha, W. (2009). Age of drinking onset, alcohol use disorders, frequent heavy drinking, and unintentionally injuring oneself and others after drinking. *Pediatrics*, 123(6), 1477-1484. doi: 10.1542/peds.2008-2176
- Huckle, T., Huakau, J., Sweetsur, P., Huisman, O., & Casswell, S. (2008). Density of alcohol outlets and teenage drinking: living in an alcogenic environment is associated with higher consumption in a metropolitan setting. *Addiction*, 103(10), 1614-1621. doi: 10.1111/j.1360-0443.2008.02318.x
- Jernigan, D. H., & Rushman, A. E. (2014). Measuring youth exposure to alcohol marketing on social networking sites: challenges and prospects. *Journal of Public Health Policy*, 35(1), 91-104. doi: 10.1057/jphp.2013.45
- Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (2015). Monitoring the Future national survey results on drug use: 1975-2014: 2014 Overview, key findings on adolescent drug use. Ann Arbor: Institute for Social Research, The University of Michigan.

- Kelly, G. (1991). The nature of personal constructs. In G. Kelly (Ed.), *The psychology of personal constructs: Volume one: Theory and personality* (pp. 74-127). New York, NY: Routledge.
- Koordeman, R., Kuntsche, E., Anschutz, D. J., van Baaren, R. B., & Engels, R. (2011). Do We Act upon What We See? Direct Effects of Alcohol Cues in Movies on Young Adults' Alcohol Drinking. *Alcohol and Alcoholism*, 46(4), 393-398. doi: 10.1093/alcalc/agr028
- Kuntsche, E., Knibbe, R., Gmel, G., & Engels, R. (2005). Why do young people drink? A review of drinking motives. *Clinical Psychology Review*, 25(7), 841-861. doi: 10.1016/j.cpr.2005.06.002
- Leyshon, M. (2011). New media, new problem? Alcohol, young people and the Internet. London: Alcohol Concern.
- Lyons, A. C., Dalton, S. I., & Hoy, A. (2006). 'Hardcore drinking': portrayals of alcohol consumption in young women's and men's magazines. *Journal of Health Psychology*, 11(2), 223-232. doi: 10.1177/1359105306061183
- Manganello, J., Franzini, A., & Jordan, A. (2008). Sampling television programs for content analysis of sex on TV: How many episodes are enough? *Journal of Sex Research*, 45(1), 9-16.
- Mason, W. A., & Windle, M. (2001). Family, Religious, School and Peer Influences on Adolescent Alcohol Use: A Longitudinal Study. *Journal of Studies on Alcohol and Drugs*, 62(1), 44-53.

- Masten, A. S., Faden, V. B., Zucker, R. A., & Spear, L. P. (2008). Underage drinking: a developmental framework. *Pediatrics*, 121 Suppl 4, S235-251. doi: 10.1542/peds.2007-2243A
- Miller, J. W., Naimi, T. S., Brewer, R. D., & Jones, S. E. (2007). Binge drinking and associated health risk behaviors among high school students. *Pediatrics*, 119(1), 76-85. doi: 10.1542/peds.2006-1517
- Moreno, M. A., Furtner, F. Rivara F.P. (2011). Media influence on adolescent alcohol use. *Archives of Pediatrics & Adolescent Medicine*, 165(7), 680-680. doi: 10.1001/archpediatrics.2011.121
- Murphy, A., Roberts, B., Ploubidis, G. B., Stickley, A., & McKee, M. (2014). Using multi-level data to estimate the effect of an 'alcogenic' environment on hazardous alcohol consumption in the former Soviet Union. *Health & Place*, 27(0), 205-211. doi: <http://dx.doi.org/10.1016/j.healthplace.2014.02.015>
- Murphy, S. T., Hether, H. J., & Rideout, V. (2008). How healthy is prime time? Menlo Park, CA: The Kaiser Family Foundation and The USC Annenberg Norman Lear Center's Hollywood, Health & Society.
- Nelson, D. E., Naimi, T. S., Brewer, R. D., & Nelson, H. A. (2009). State alcohol-use estimates among youth and adults, 1993-2005. *American Journal of Preventive Medicine*, 36(3), 218-224. doi: 10.1016/j.amepre.2008.10.018
- Nicholls, J. (2012). Everyday, everywhere: alcohol marketing and social media--current trends. *Alcohol and Alcoholism*, 47(4), 486-493. doi: 10.1093/alcalc/ags043

- Nielsen. (2015). The total audience report Q4 2014 Retrieved April 29, 2015, from <http://www.nielsen.com/content/dam/corporate/us/en/reports-downloads/2015-reports/total-audience-report-q4-2014.pdf>
- Parker, H. (2005). Normalization as barometer: Recreational drug use and the consumption of leisure by young Britons. *Addiction Research & Theory*, 13(3), 205-215.
- Russell, C. A., Norman, A. T., & Heckler, S. E. (2004). People and "their" television shows: an overview of television connectedness. In L. J. Shrum (Ed.), *The psychology of entertainment media. Blurring the lines between entertainment and persuasion* (pp. 275-290). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Russell, C. A., & Russell, D. W. (2009). Alcohol Messages in Prime-Time Television Series. *Journal of Consumer Affairs*, 43(1), 108-128. doi: 10.1111/j.1745-6606.2008.01129.x
- Russell, C. A., Russell, D. W., & Grube, J. W. (2009). Nature and impact of alcohol messages in a youth-oriented television series. *Journal of Advertising*, 38(3), 97-111.
- Stockwell, T., & Gruenwald, P. (2004). Controls on the physical availability of alcohol. In N. Heather & T. Stockwell (Eds.), *The essential handbook of treatment and prevention of alcohol problems*. England: John Wiley & Sons Ltd.
- Strasburger, V. C., & Hogan, M. J. (2013). Policy Statemet. Children, Adolescents, and the media. *Pediatrics*, 132(5), 958-961.

Strasburger, V. C., Jordan, A. B., & Donnerstein, E. (2012). Children, Adolescents, and the Media: Health Effects. *Pediatric Clinics of North America*, 59(3), 533-+. doi: 10.1016/j.pcl.2012.03.025

Substance Abuse and Mental Health Services Administration (SAMHSA). (2013). Results from the 2012 National Survey on Drug Use and Health: Summary of National Findings. 2013 Retrieved June 3, 2015, from <http://www.samhsa.gov/data/NSDUH/2012SummNatFindDetTables/NationalFindings/NSDUHresults2012.htm#ch2.2>

Substance Abuse and Mental Health Services Administration [SAMHSA]. (2014). Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings *NSDUH Series H-48*. Rockville, MD: Substance Abuse and Mental Health Services Administration.

Television Bureau of Advertising. (2012). TV basics. A report on the growth and scope of television. Retrieved April 29, 2015, from http://www.tvb.org/media/file/TV_Basics.pdf

Travers, B. (2014). Are there too many TV shows? With 350 airing this year, some say 'yes' Retrieved April 29, 2015, from <http://www.indiewire.com/article/television/are-there-too-many-tv-shows-some-producers-argue-yes>

van Laer, T., de Ruyter, K., Visconti, L. M., & Wetzels, M. (2014). The Extended Transportation-Imagery Model: A Meta-Analysis of the Antecedents and Consequences of Consumers' Narrative Transportation. *Journal of Consumer Research*, 40(5), 797-817. doi: 10.1086/673383

Xuan, Z., Blanchette, J. G., Nelson, T. F., Nguyen, T. H., Hadland, S. E., Oussayef, N. L., . . . Naimi, T. S. (2015). Youth Drinking in the United States: Relationships With Alcohol Policies and Adult Drinking. *Pediatrics*. doi: 10.1542/peds.2015-0537

Chapter 6: Integrative Summary

Alcohol remains the drug of choice among U.S. youth, even during the current period of declining rates of use. During this period of decline, excessive alcohol use within the population is causally related to over 4,300 deaths among youth under 21 in the U.S. (Centers for Disease Control and Prevention, 2015). The broad-based efforts to reduce rates of underage drinking put forward by federally funded agencies (e.g., Office of National Drug Control Policy: Drug Free Communities Act) to decrease underage drinking may be contributing to these declines. However, college student and female drinking has proven more resistant to change (Gruca, Norberg, & Bierut, 2009), and rates of use may have decreased even more without the counter-messages of normalization prevalent in popular culture.

Approximately 5.4 million youth aged 12-20 (14%) reported binge drinking (5+ drinks in one sitting) in the last 30 days (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014). Binge drinking among youth is associated with poor school performance, being sexually active, attempting suicide (Miller, Naimi, Brewer, & Jones, 2007), driving after drinking, car crashes (Hingson, Edwards, Heeren, & Rosenbloom, 2009), and harm to oneself and others while drinking (Hingson & Zha, 2009). Early initiation of alcohol use is related to problems with alcohol later in life, including dependence (Dawson, Goldstein, Chou, Ruan, & Grant, 2008; Grant & Dawson, 1997). Young people who consume alcohol are at risk of damage to the brain (Jacobus & Tapert, 2013).

Alcohol marketing in a young person's environment has been found to influence a young person's decision to drink, either to initiate drinking or to drink more if he or she

has already begun (Anderson, de Bruijn, Angus, Gordon, & Hastings, 2009; Smith & Foxcroft, 2009). Young people are exposed to a multitude of media that present messages about alcohol use, including alcohol advertisements in magazines (Center on Alcohol Marketing and Youth [CAMY], 2010), on the radio (CAMY, 2011), on television (CAMY, 2012), on outdoor billboards (Hillier et al., 2009; Kwate, Jernigan, & Lee, 2007; Maxwell & Jaconson, 1989; Pasch, Komro, Perry, Hearst, & Farbakhsh, 2007), on public transit (Alcohol Justice, 2013; Nyborn, Wukitsch, Nhean, & Siegel, 2009), and online (Jernigan & Rushman, 2014; Leyshon, 2011; Nicholls, 2012). Furthermore, youth are exposed to the portrayal of alcohol use in narratives via movies (Dal Cin et al., 2009; Hanewinkel et al., 2014; Hanewinkel et al., 2012; Stoolmiller, Gerrard, Sargent, Worth, & Gibbons, 2010) and on TV, where alcohol use is extensive (Atkinson, Elliott, Bellis, & Sumnall, 2011; Byrd-Bredbenner, 2004; Christenson, Henriksen, & Roberts, 2000; Koordeman, Anschutz, & Engels, 2012; Mathios, Avery, Bisogni, & Shanahan, 1998; Russell & Russell, 2009; Russell & Stern, 2006; Russell & Russell, 2008; Wallack, Grube, Madden, & Breed, 1990).

Using the theoretical foundations of Transportation Theory, the Cultivation Perspective and Social Cognitive Theory, I discussed possible means through which young people may become immersed in TV programs, connecting with the characters, and then modeling their behaviors, specifically with regards to alcohol use. I focused on adolescence since this is a critical time in identity development (Cohen, 2001) when uncertainty, vulnerability and wanting to fit in may all lead to an increased likelihood of modeling behaviors of role models (Jessor, 1991). These role models may be the “super-peers” that young viewers see on TV (Brown, Halpern, & L'Engle, 2005).

In this dissertation I developed and pilot tested a methodology to sample TV programs most popular among young people, 12-20 years old, in order to capture and analyze alcohol use portrayals that young people were exposed to most. With Nielsen ratings data (Nielsen Inc., New York, NY), I was able to identify the five entertainment programs with the highest number of 12-20 year-old viewers between 2002 and 2012. This type of longitudinal study has not been attempted since Wallack et al. (1990) completed their study almost 30 years ago. I created a codebook that captured alcohol-related information about all TV characters and their surroundings. Initially, in a pilot study, I coded one random episode from each of the five top programs for each year, resulting in a total of 50 episodes coded for the content analysis.

For the subsequent studies, I revised the pilot codebook to reflect coding that was more consistent with the coding of Wallack et al. (1990) so that I could make comparisons between the two studies more easily. I recognized as well that in order to compare the two studies, I had to code by scene as well as by character, and therefore I made this adjustment. I used Social Cognitive Theory and Narrative Transportation to guide the revisions of the codebook in terms of focusing on main characters as the major agents of potential behavior modeling. I increased the sample size for this second round of data-gathering. I randomly selected three episodes from each of the three sweeps seasons in each year (November, February, May) for each of the five top entertainment programs in each of the 10-year study sample. I coded 15 episodes per year for each of 10 years for a total of 150 TV episodes coded. I found that over the 10-year study period, the number of alcohol-use references per hour of TV (any visual or verbal mention of alcohol in the foreground or background of the scene) increased significantly, as did the number

of alcohol acts per hour (ingestion or preparation to drink alcohol in the background or foreground of the scene).

For my final study, I used results from the content analysis in Study 2 to explore the normalization of alcohol use through an investigation of the elements that make up alcohol-use constructs, i.e., how the meaning of alcohol use is constructed in recurrent, stable and overarching ways. Over the 10-year study period, I found that alcohol use was presented as a normal, everyday activity with socializing as the reason for drinking most often cited. Drinking most often occurred in group settings with the majority of group members imbibing. When discussing alcohol use, TV characters spoke positively in the majority of occasions, and after consuming alcohol, main characters and those around them rarely experienced any negative consequences. I also described theories that help underscore the plausibility that alcohol portrayals on TV are influential in modeling of alcohol use behaviors.

Since the results of the 10-year trend analysis of Wallack et al. (1990), no other study has looked at alcohol use portrayals on TV over a recent 10-year period. Other analyses have looked at only one, two or three years of TV programming. Results from my study indicate a normalized and ever-increasing presence of alcohol in the media used most among youth, ironically during a time period when alcohol use has actually been decreasing, at least among high school students. The gap between alcohol as portrayed on television and alcohol use as it actually occurs in young people's lives may be increasing. While the mechanism of TV's influence on behavior is not fully understood, when we consider studies that have documented the influence of alcohol advertising on youth alcohol use (e.g. Anderson et al., 2009), as well as the influence of drinking in movies on

youth alcohol use (e.g. Hanewinkel et al., 2014), we need to consider that similar effects may be at play when young people are watching alcohol portrayals on TV. In fact, portrayals of alcohol use on TV may be even more influential because of the power of transportation into the narrative world of the program, the greater length of time viewers are exposed through the TV series, and the subsequent effects of modeling of risk behaviors during a vulnerable period in life.

Public health implications

Alcohol use among high school students is declining in the United States. Continuing this decline is a public health priority, given the toll that alcohol takes not only on young people's lives but across the life course, and the degree to which initiation of use and patterns of use set in adolescence may influence outcomes for decades to come. Considering the potential harms from alcohol use among youth, and the potential influence on use from heavy exposure to TV portrayals of alcohol use, it is incumbent upon us as public health professionals to create environments that are conducive to the healthiest behaviors. Public health policy interventions should be considered. A possible first step would be to include alcohol use, portrayals or mentions as part of the criteria for TV program ratings (parental guidelines), so that parents could be better informed as to the content of TV programs their children watch and more be able to monitor viewing accordingly.

One step further would be to restrict, alter or in some other way reduce the way in which alcohol use is portrayed on TV. In the 1970s, a series of "cooperative consultations" between TV writers, producers and alcohol researchers helped to

reconstruct the way alcohol was portrayed on TV (Breed & De Foe, 1982). Popular TV programs such as *M*A*S*H*, *The Jeffersons* and others included more realistic portrayals of use, with negative consequences resulting from use (Breed, De Foe, & Wallack, 1984). The changes on these programs, along with other messages in the mass media, including the “designated driver” entertainment education campaign that was part of the Harvard Alcohol Project (Winsten, 1994), helped reframe harms from alcohol use during this period (DeJong & Winsten, 1990).

Currently, no routine monitoring of alcohol use on TV programs exists. A mandate of continuous monitoring of the appropriate use of alcohol on TV programs, especially those popular among youth, would be instructive. This charge would have to be led by a public health agency systematically documenting alcohol use portrayals on TV, which could lead to recommendations for change, if necessary.

Finally, any and all of these policy recommendations will not work in isolation to reduce alcohol-related harms. Only comprehensive strategies that address a range of factors including individual-level factors (including parent and peer networks), community factors (including school and community policies) and the environment of use (state and national policies), will be effective (Holder, 2000; Holder et al., 2000).

Future studies

Future studies should consider the psychological mechanisms connecting viewers with TV programs, rendering viewers more connected to TV characters and therefore more likely to imitate behaviors (Russell & Puto, 1999; Russell, Norman, & Heckler, 2004; Schau & Russell, 2004). A few studies have looked at this connection; however,

there has been no systematic investigation into long-term versus short-term parasocial relationships combined with immersion into the programs through transportation. A study using both the “connectedness scale” (Russell, Norman, Heckler, Iacobucci, & Arnould, 2004) and the “transportation scale” (Appel, Gnambs, Richter, & Green, 2015) would be of great value. The impact of connectedness and transportability could be measured and tested as a function of time spent with TV characters, i.e., how long has an individual been watching a certain TV series and does this level of engagement alter the likelihood for behavior modeling.

Future studies concentrating on the psychological mechanisms connecting viewing and behavior could examine the longitudinal impact of alcohol use by favorite TV characters. Questions with regards to viewer attitudes and beliefs regarding alcohol use as well as likelihood of modeling would be paramount. The first wave of research could test attitudes and beliefs about alcohol before the influence of TV characters. Therefore, participants would be recruited at approximately 12-years-old. Through each wave of research, participants would report TV viewing habits, including favorite TV programs and characters. Those who connect with characters known to consume alcohol, e.g., the character Barney on *How I Met Your Mother*, would be the primary focus. Other environmental variables would have to be controlled for. This reporting would have to run in parallel with a content analysis of TV programs viewed by the participants to gauge alcohol use by characters.

A focus group study could explore attitudes and beliefs of TV viewers with regards to character alcohol use and effects on their own drinking behavior. Participants could discuss the normalized aspects of alcohol use and could compare alcohol use on

older TV programs versus more recent ones. Receiver-oriented content analysis would be another way to access attitudes and beliefs of young viewers, engaging them in the coding and interpretation of the alcohol messages they see on TV (Austin, 2009; Austin, Pinkleton, & Fujioka, 1999).

Similar to experimental studies looking at the immediate impacts of exposure to alcohol use in movies (Engels & Koordeman, 2011; Koordeman, Anschutz, van Baaren, & Engels, 2011; Koordeman, Kuntsche, Anschutz, van Baaren, & Engels, 2011), future studies could look at the immediate effects of youth exposure to drinking by characters on TV programs. In a controlled setting, participants would be assigned to one of two conditions: TV episode with a familiar character consuming alcohol and in the control condition, the familiar character consuming a non-alcoholic beverage. After the program, participants could be asked about their intentions to drink, within a larger battery of questions, and given options of alcoholic or non-alcoholic beverages. Providing actual alcoholic beverages to underage youth would be unethical.

Additionally, considering the rise in popularity of animated satire programming among youth and the proliferation of this genre on TV, future studies could look at the impact of messages delivered by animated vs non-animated characters. Alcohol use, its antecedents and consequences could be explored and compared between the two genres. An examination of animated programming over time would prove valuable with attention to the change in storylines and character types.

Finally, future studies could use a similar coding methodology to the one developed in this dissertation, but include a greater number of episodes per year. If this task were completed each year, we could focus on more episodes from each program, on

more channels, thereby capturing a greater breadth, depth and representativeness of TV exposure among youth. With a greater number of coders, all scenes, not only alcohol-involved scenes, could be coded so that the proportion of alcohol-involved scenes could be calculated. Future studies could include the length of time alcohol appears on screen, either visually or verbally, similar to the work by Russell and Russell (2009), who captured alcohol use in eight-weeks of prime-time TV programming. Trends over time would be interesting to note here as well.

Limitations and strengths

The main limitation of this project is the sample size of Studies 2 and 3. Most other content analyses of alcohol use on TV had similar sample sizes in terms of number of episodes; however, the programming aired in one, two or three years, rather than over 10 years. In looking at 10 years of programming, a more representative sample for each year would be of great value. Other limitations include the sampling of TV programs on broadcast networks only. Although viewership on broadcast networks is far higher than on cable, satellite or streaming channels such as Netflix or Amazon Prime, there is still a segment of the population that I am missing by excluding this other programming.

In studies 2 and 3, in the few instances ($n = 7$ out of a total of $n = 63$ instances of intoxication over the 10 year sample) where characters were depicted as intoxicated but the viewer was not witness to the drinking or the act of preparing to drink, we coded the character as performing two prepared to drink acts. This differed from the coding by Wallack et al. (1990) and other similar studies where authors did not assign any drinking acts to these characters. We decided to assign a conservative number of two prepared to

drink acts for these instances so that we could capture this “implied drinking.” We felt that two prepared to drinks acts was a conservative estimate since intoxication typically occurs after more than two drinks. We did not code these as ingestions of alcohol, since ingestions need to be viewed. One of the reasons for differentiating between ingestions (actual drinking) and preparations (implied drinking) is that modeling can occur from viewing the ingestions, but not necessarily from viewing the preparations.

Although intended to be objective through measures of reliability, content analyses by adult coders may not capture the same messages about alcohol use as youth coders. Since I am looking at the way alcohol use on TV affects youth, having a youth audience code the content would strengthen the study.

Since the 10-year study by Wallack et al. (1990), no other content analysis or study has explored the alcohol content on TV programming over this length of time – a major strength of this study. It is critical to examine changes over time in order to recognize and further study TV’s evolving influence. From the cultivation perspective, TV programming is pervasive and as long as it continues to be the medium used most by youth (and others), it is important to document its contents.

Another strength of this study is the theoretical examination of modeling alcohol-use behaviors. Most other content analyses document alcohol use portrayals without an exploration of the mechanisms that may impact levels of influence. This study also uses a lens of normalization not used by many others.

In sum, I was able to demonstrate a sampling strategy that focuses on programming youth are most likely to see, over a 10-year time period. I was able to develop and refine a codebook and rulebook for a content analysis that built on earlier

efforts to capture alcohol-related content on TV. Unlike other analyses, I was able to record specific traits of TV characters (relative importance and typology) that make them more or less likely to be modeled and report on their alcohol use. I looked at popular TV programs over a 10-year period, again, unlike most other analyses. Finally, I was able to document a statistically significant trend in the portrayal of alcohol use over this 10-year period.

Conclusions

During a period in which young people continue to consume alcohol excessively and are harmed as a result, it is critical to study the influences on that use so that harms may be reduced. The conceptual model that has guided my research (see Figure 1.1) brings together multiple theories that help examine media as one of these influences. According to the Cultivation Perspective, TV viewing is ubiquitous and has long-term effects on attitudes and behavior. Drawing on the main tenets of Social Cognitive Theory, we recognize the influences of our media environment on drinking behavior. Taken a few steps further, we expand upon this theory, looking more closely at the specific impacts of parasocial relationship formation via TV viewing, in consideration of Transportation Theory and its impact on behavior modeling. All of these theories work together to help explain behavior within our environment of normalized alcohol use.

As discussed above, and as demonstrated by my study, alcohol use is pervasive on TV programs popular among youth. Furthermore, TV viewing is pervasive among youth. One possible influence on youth alcohol use is the portrayal of alcohol use on TV by characters with whom youth identify and who thus function as potential role models.

Currently there is no avenue of systematic documentation of alcohol use on TV nor are there any restrictions on the way alcohol use is portrayed. From this project, I have demonstrated that we can systematically document alcohol use on TV as well as identify the TV programs viewed most by young people. As alcohol continues to be normalized on TV, as demonstrated here, and as televised use continues to increase with each passing year, we have the information necessary to make change. A comprehensive approach to reducing alcohol-related harms should include attention to the way alcohol use is portrayed on TV in order to effectively reduce alcohol use and related harms among young people.

References

- Alcohol Justice. (2013). These bus ads don't stop for children Retrieved June 18, 2015, from https://alcoholjustice.org/images/reports/aj_transitad_report_f_low.pdf
- Anderson, P., de Bruijn, A., Angus, K., Gordon, R., & Hastings, G. (2009). Impact of alcohol advertising and media exposure on adolescent alcohol use: A systematic review of longitudinal studies. *Alcohol and Alcoholism*, 44(3), 229-243.
- Appel, M., Gnambs, T., Richter, T., & Green, M. C. (2015). The Transportation Scale–Short Form (TS–SF). *Media Psychology*, 18(2), 243-266. doi: 10.1080/15213269.2014.987400
- Atkinson, A., Elliott, G., Bellis, M., & Sumnall, H. R. (2011). Young people, alcohol and the media. York, UK: Joseph Rowntree Foundation.
- Austin, E. W. (2009). Receiver-oriented message analysis: Lessons from alcohol advertising. In A. B. Jordan, D. Kunkel, J. Manganello & M. Fishbein (Eds.), *Media Messages and Public Health: A Decisions Approach to Content Analysis* (pp. 192-210). New York: Routledge.
- Austin, E. W., Pinkleton, B. E., & Fujioka, Y. (1999). Assessing prosocial message effectiveness: effects of message quality, production quality, and persuasiveness. *Journal of Health Communication*, 4(3), 195-210.
- Breed, W., & De Foe, J. R. (1982). Effecting Media Change: The Role of Cooperative Consultation on Alcohol Topics. *Journal of Communication*, 32(2), 88-99. doi: 10.1111/j.1460-2466.1982.tb00499.x
- Breed, W., De Foe, J. R., & Wallack, L. (1984). Drinking in the mass media: a nine-year project. *Journal of Drug Issues*, 14(4), 655-664.

- Brown, J. D., Halpern, C. T., & L'Engle, K. L. (2005). Mass media as a sexual super peer for early maturing girls. *Journal of Adolescent Health, 36*(5), 420-427. doi: 10.1016/j.jadohealth.2004.06.003
- Byrd-Bredbenner, C. (2004). An internationally shared health frame of reference created by a television program: The Simpsons, a content analysis of health messages. *Health Education, 104*(1), 18-24.
- Center on Alcohol Marketing and Youth. (2010). Youth Exposure to Alcohol Advertising in National Magazines, 2001-2008. Baltimore: Center on Alcohol Marketing and Youth.
- Center on Alcohol Marketing and Youth. (2011). Youth exposure to alcohol product advertising on local radio in 75 U.S. markets, 2009. Baltimore, MD: Johns Hopkins Bloomberg School of Public Health.
- Center on Alcohol Marketing and Youth. (2012). Youth exposure to alcohol advertising on television, 2001-2009 Retrieved June 18, 2015, from http://www.camy.org/research/Youth_Exposure_to_Alcohol_Ads_on_TV_Growing_Faster_Than_Adults/_includes/TVReport01-09_Revised_7-12.pdf
- Centers for Disease Control and Prevention. (2015). Alcohol-Related Disease Impact (ARDI) application, 2006-2010, from http://apps.nccd.cdc.gov/DACH_ARDI/Default/Default.aspx
- Christenson, P. G., Henriksen, L., & Roberts, D. F. (2000). Substance use in popular prime time television: Office of National Drug Control Policy.

- Cohen, J. (2001). Defining identification: A theoretical look at the identification of audiences with media characters. *Mass Communication & Society*, 4(3), 245-264. doi: 10.1207/s15327825mcs0403_01
- Dal Cin, S., Worth, K. A., Gerrard, M., Stoolmiller, M., Sargent, J. D., Wills, T. A., & Gibbons, F. X. (2009). Watching and drinking: expectancies, prototypes, and friends' alcohol use mediate the effect of exposure to alcohol use in movies on adolescent drinking. *Health Psychology*, 28(4), 473-483. doi: 10.1037/a0014777
- Dawson, D. A., Goldstein, R. B., Chou, S. P., Ruan, W. J., & Grant, B. F. (2008). Age at first drink and the first incidence of adult-onset DSM-IV alcohol use disorders. *Alcoholism: Clinical and Experimental Research*, 32(12), 2149-2160. doi: 10.1111/j.1530-0277.2008.00806.x
- DeJong, W., & Winsten, J. A. (1990). *The Harvard Alcohol Project: a demonstration project to promote the use of the "Designated Driver"*. Paper presented at the The 11th International Conference on Alcohol, Drugs and Traffic Safety, Chicago, Illinois.
- Engels, R. C., & Koordeman, R. (2011). Do alcohol portrayals in movies and commercials directly affect consumption? *Addiction*, 106(3), 472-473. doi: 10.1111/j.1360-0443.2010.03237.x
- Grant, B. F., & Dawson, D. A. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse*, 9, 103-110.

- Grucza, R. A., Norberg, K. E., & Bierut, L. J. (2009). Binge drinking among youths and young adults in the United States: 1979-2006. *Journal of the American Academy of Child and Adolesc Psychiatry*, 48(7), 692-702. doi: 10.1097/CHI.0b013e3181a2b32f
- Hanewinkel, R., Sargent, J. D., Hunt, K., Sweeting, H., Engels, R. C., Scholte, R. H., . . . Morgenstern, M. (2014). Portrayal of alcohol consumption in movies and drinking initiation in low-risk adolescents. *Pediatrics*, 133(6), 973-982. doi: 10.1542/peds.2013-3880
- Hanewinkel, R., Sargent, J. D., Poelen, E. A., Scholte, R., Florek, E., Sweeting, H., . . . Morgenstern, M. (2012). Alcohol consumption in movies and adolescent binge drinking in 6 European countries. *Pediatrics*, 129(4), 709-720. doi: 10.1542/peds.2011-2809
- Hillier, A., Cole, B. L., Smith, T. E., Yancey, A. K., Williams, J. D., Grier, S. A., & McCarthy, W. J. (2009). Clustering of unhealthy outdoor advertisements around child-serving institutions: A comparison of three cities. *Health and Place*, 15(4), 935-945. doi: 10.1016/j.healthplace.2009.02.014
- Hingson, R. W., Edwards, E. M., Heeren, T., & Rosenbloom, D. (2009). Age of drinking onset and injuries, motor vehicle crashes, and physical fights after drinking and when not drinking. *Alcoholism: Clinical and Experimental Research*, 33(5), 783-790. doi: 10.1111/j.1530-0277.2009.00896.x
- Hingson, R. W., & Zha, W. (2009). Age of drinking onset, alcohol use disorders, frequent heavy drinking, and unintentionally injuring oneself and others after drinking. *Pediatrics*, 123(6), 1477-1484. doi: 10.1542/peds.2008-2176

- Holder, H. D. (2000). Community prevention of alcohol problems. *Addictive Behaviors*, 25(6), 843-859.
- Holder, H. D., Gruenewald, P. J., Ponicki, W. R., Treno, A. J., Grube, J. W., Saltz, R. F., . . . Roeper, P. (2000). Effect of community-based interventions on high-risk drinking and alcohol-related injuries. *JAMA*, 284(18), 2341-2347.
- Jacobus, J., & Tapert, S. F. (2013). Neurotoxic effects of alcohol in adolescence. *Annual Review of Clinical Psychology*, 9, 703-721. doi: 10.1146/annurev-clinpsy-050212-185610
- Jernigan, D. H., & Rushman, A. E. (2014). Measuring youth exposure to alcohol marketing on social networking sites: challenges and prospects. *Journal of Public Health Policy*, 35(1), 91-104. doi: 10.1057/jphp.2013.45
- Jessor, R. (1991). Risk behavior in adolescence: A psychosocial framework for understanding and action. *Journal of Adolescent Health*, 12(8), 597-605.
- Koordeman, R., Anschutz, D. J., & Engels, R. (2012). Alcohol Portrayals in Movies, Music Videos and Soap Operas and Alcohol Use of Young People: Current Status and Future Challenges. *Alcohol and Alcoholism*, 47(5), 612-623. doi: 10.1093/alcalc/ags073
- Koordeman, R., Anschutz, D. J., van Baaren, R. B., & Engels, R. C. (2011). Effects of alcohol portrayals in movies on actual alcohol consumption: an observational experimental study. *Addiction*, 106(3), 547-554. doi: 10.1111/j.1360-0443.2010.03224.x
- Koordeman, R., Kuntsche, E., Anschutz, D. J., van Baaren, R. B., & Engels, R. C. M. E. (2011). Do we act upon what we see? Direct effects of alcohol cues in movies on

- young adults' alcohol drinking. *Alcohol and Alcoholism*, 46(4), 393-398. doi: 10.1093/alcalc/agr028
- Kwate, N. O. A., Jernigan, M., & Lee, T. (2007). Prevalence, proximity and predictors of alcohol ads in central Harlem. *Alcohol and Alcoholism*, 42(6), 635-640. doi: 10.1093/alcalc/agm053
- Leyshon, M. (2011). New media, new problem? Alcohol, young people and the Internet. London: Alcohol Concern.
- Mathios, A., Avery, R., Bisogni, C., & Shanahan, J. (1998). Alcohol portrayal on prime-time television: Manifest and latent messages. *Journal of Studies on Alcohol*, 59(3), 305-310.
- Maxwell, B., & Jaconson, M. (1989). Marketing disease to hispanics: The selling of alcohol, tobacco and junk foods. Washington, DC: Center for Science in the Public Interest.
- Miller, J. W., Naimi, T. S., Brewer, R. D., & Jones, S. E. (2007). Binge drinking and associated health risk behaviors among high school students. *Pediatrics*, 119(1), 76-85. doi: 10.1542/peds.2006-1517
- Nicholls, J. (2012). Everyday, everywhere: alcohol marketing and social media--current trends. *Alcohol and Alcoholism*, 47(4), 486-493. doi: 10.1093/alcalc/ags043
- Nyborn, J. A., Wukitsch, K., Nhean, S., & Siegel, M. (2009). Alcohol advertising on Boston's Massachusetts Bay Transportation Authority transit system: an assessment of youths' and adults' exposure. *American Journal of Public Health*, 99 Suppl 3, S644-648. doi: 10.2105/ajph.2008.149906

Pasch, K. E., Komro, K. A., Perry, C. L., Hearst, M. O., & Farbakhsh, K. (2007).

Outdoor alcohol advertising near schools: What does it advertise and how is it related to intentions and use of alcohol among young adolescents? *Journal of Studies on Alcohol Drugs*, 68(4), 587-596.

Russell, C., & Puto, C. (1999). Rethinking Television Audience Measures: An Exploration into the Construct of Audience Connectedness. *Marketing Letters*, 10(4), 393-407. doi: 10.1023/a:1008170406363

Russell, C. A., Norman, A. T., & Heckler, S. E. (2004). People and "their" television shows: an overview of television connectedness. In L. J. Shrum (Ed.), *The psychology of entertainment media. Blurring the lines between entertainment and persuasion* (pp. 275-290). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Russell, C. A., Norman, A. T., Heckler, S. E., Iacobucci, D., & Arnould, E. J. (2004). The consumption of television programming: Development and validation of the connectedness scale. *Journal of Consumer Research*, 31(1), 150-161. doi: 10.1086/383431

Russell, C. A., & Russell, D. W. (2009). Alcohol Messages in Prime-Time Television Series. *Journal of Consumer Affairs*, 43(1), 108-128. doi: 10.1111/j.1745-6606.2008.01129.x

Russell, C. A., & Stern, B. (2006). Consumption in Soap Operas from Brazil, New Zealand, and the US: Production, Products, and Process. In C. Pechmann & L. L. Price (Eds.), *Advances in Consumer Research*, Vol 33 (Vol. 33, pp. 134-137).

- Russell, D. W., & Russell, C. A. (2008). Embedded alcohol messages in television series: The interactive effect of warnings and audience connectedness on viewers' alcohol beliefs. *Journal of Studies on Alcohol and Drugs*, 69(3), 459-467.
- Schau, H. J., & Russell, C. A. (2004). Consuming television: Connectedness and community in broadcast media. In B. E. Kahn & M. F. Luce (Eds.), *Advances in Consumer Research*, (Vol. 31, pp. 544-547). Valdosta, GA: Association for Consumer Research.
- Smith, L. A., & Foxcroft, D. R. (2009). The effect of alcohol advertising, marketing and portrayal on drinking behaviour in young people: Systematic review of prospective cohort studies. *BMC Public Health*, 9(51).
- Stoolmiller, M., Gerrard, M., Sargent, J. D., Worth, K. A., & Gibbons, F. X. (2010). R-rated movie viewing, growth in sensation seeking and alcohol initiation: reciprocal and moderation effects. *Prevention Science*, 11(1), 1-13. doi: 10.1007/s11121-009-0143-z
- Substance Abuse and Mental Health Services Administration [SAMHSA]. (2014). Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings *NSDUH Series H-48*. Rockville, MD: Substance Abuse and Mental Health Services Administration.
- Wallack, L., Grube, J. W., Madden, P. A., & Breed, W. (1990). Portrayals of alcohol on prime-time television. *Journal of Studies on Alcohol*, 51(5), 428-437.
- Winsten, J. A. (1994). Promoting designated drivers: the Harvard Alcohol Project. *American Journal of Preventive Medicine*, 10(3 Suppl), 11-14.

Appendices

Appendix A: Codebooks for Studies 1, 2 and 3

Codebook for Study 1

Program Name + Episode Name		
Major Character Name	1)	
Gender		
Age		
Race/Ethnicity		
Profession (Enter text)		
Alcohol acts -		
VISUAL FOREGROUND		
(Main characters engaged with alcohol)		
For each scene, note:	Scene 1	Scene 1
- type of drink		
- number of drinks		
- consequences by character		
- consequences by others		
- explain scene and consequences (char + other)		
- location of drinking		
VISUAL BACKGROUND		
(Alcohol paraphernalia – # per episode)		
	1)	
VERBAL FOREGROUND		
(Main characters talking about alcohol - not drink)		
For each discussion, note:	Discussion 1	Discussion 1
- affect of char(+/- / M / N)		
- the actual experience / consequence		
	Discussion 2	Discussion 2
MINOR BACKGROUND		
(Any non-major char talking abt or using; 1 count = mention / act in 1 scene)	1)	
- location of drinking		
VIOLENT / ILLEGAL ACT / FORCEFUL DRINKING		
(Any mention or portrayal – describe)		
	1)	
Other Notes		

Codebooks for Studies 2 and 3

Coding by Character

[illegible]

Coding by Scene

Scene Name (EpisodeName_Scene1, e.g. SIM_S1E15_S1)	_SC1		
Start Time	0:00	0:00	0:00
End Time			
Length (seconds)	0:00	0:00	0:00
Location			
Alcohol-Related Scene?	N/A	N/A	N/A
Total Number of 'Alcohol-Related Scenes'	0		
Count Down			
Beverage Acts by *Foreground* Characters			
Is there a beverage act by a foreground character in the scene?			
Number of preparations to drink alcohol (order, pour, hold)			
Number of ingestions of alcohol			
Number of non-alcoholic drinks that are prepared / ingested			
Is there a violent /illegal act or forced drinking?			
Proportion in *foreground* involved with alcohol in the scene			
How many people in the *foreground* of the scene?			
How many people drinking non-alcoholic beverages?			
How many people preparing to drink alcohol?			
How many people ingesting alcohol?			
Proportion of scenes with alcohol paraphernalia			
Is there alcohol paraphernalia in the scene (not counted in consumption)?			
How many groups of items?			
Describe items			
Discussions about alcohol			
Is a character talking about alcohol for more than 3 seconds?			
What is the tone of the discussion?			
Key talking points, verbatim			
Background alcohol acts			
How many preparations to drink alcohol in the background? (=2 for complex scene)			
How many ingestions of alcohol in the background?			

Appendix B: Curriculum Vitae

CURRICULUM VITAE

SAMANTHA CUKIER, MBA, MA

PERSONAL DATA

Home Address: 9 Hubleys Drive
Halifax, NS B3P 1G9
Phone: (902) 580-0097
Email: scukier@jhu.edu; samantha.cukier@gmail.com

EDUCATION

Expected Aug 2015 **Doctor of Philosophy (PhD)**, Department of Health, Behavior & Society, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD
Dissertation: The new normal? An examination of the portrayal of alcohol use on TV programs popular among youth, 2002-2012 (Dr. David Jernigan)

May 2007 **Master of Arts (MA)**, Department of Health Promotion, School of Health & Human Performance, Dalhousie University, Halifax, NS, Canada
Thesis: Understanding health and wellness in corporate working environments (Dr. Lynne Robinson)

May 2005 **Master of Business Administration (MBA)**, School of Business Administration, Dalhousie University, Halifax, NS, Canada

May 2000 **Bachelor of Science (BSc)**, Psychology, *with distinction*, Science College, Concordia University, Montreal, QC, Canada

PROFESSIONAL EXPERIENCE

Teaching - Instructor

Sept 08 – *present* **Instructor**, School of Health Sciences, Dalhousie University
Course Title: Culture, Diversity and Health (HSCE 3000)

- Update and deliver this online third-year undergraduate course to classes of 25-80 students focusing on the intersection of the social determinants of health with clinical practice.

- | | |
|------------------|---|
| Sept 13 – Dec 13 | Instructor , School of Health and Human Performance, Dalhousie University
Course Title: Trends in Health Promotion (HPRO 5514)
<ul style="list-style-type: none"> • Taught this graduate level seminar class with 5 students |
| Sept 13 – Dec 13 | Instructor , School of Health and Human Performance, Dalhousie University
Course Title: Community Health Promotion Strategies (HPRO 3397)
<ul style="list-style-type: none"> • Taught this undergraduate course with 23 students |
| Jan 13 - May 13 | Instructor , Public Health Studies, Johns Hopkins University
Course Title: Alcohol, Media & Health (AS.280.401)
<ul style="list-style-type: none"> • Gordis Teaching Fellowship recipient for the development and delivery of this original course focusing on the burden of alcohol use and alcohol marketing. Seminar class with 18 students, juniors & seniors. |
| Jan 12 – May 12 | Instructor , School of Health and Human Performance, Dalhousie University
Course Title: Independent Study in Health Promotion
<ul style="list-style-type: none"> • Supervised one graduate student in directed readings and special projects to combine architecture (place) and health |
| Sept 06 – May 09 | Instructor , School of Health and Human Performance, Dalhousie University
Course Title: Health Promotion Theory (HPRO 2110)
<ul style="list-style-type: none"> • Developed all original course materials, including syllabus, readings, and assignments and taught the second-year undergraduate course for classes of 15-25 students. Updated course materials each subsequent teaching year. |
| Jan 96 – May 98 | Teacher of English as Second Language , Ecole de Langues de L'Estrie, Montreal, QC, Canada
<ul style="list-style-type: none"> • Trained French speaking government employees for standardized English exams in classes of 6-10 students, through weekly 3-hour intensive classes in grammar and conversation |

Teaching – Teaching Assistant

- | | |
|--------------------------------------|---|
| Jan 13 – Mar 13 &
Jan 12 – Mar 12 | Teaching Assistant , Johns Hopkins Bloomberg School of Public Health
Course Title: Alcohol Society and Health (PH.410.626) |
|--------------------------------------|---|

- Facilitated student learning in this graduate level course about alcohol policy processes through one-on-one student meetings and feedback on papers, exams
 - Delivered two lectures: Interventions for Alcohol Misuse; Alcohol Taxation
- Jan 13 – Mar 13 **Teaching Assistant**, Johns Hopkins Bloomberg School of Public Health
Course Title: Teaching at the University Level (PH.300.750)
- Aided in course organization, provision of student feedback on assignments and grading for this graduate class of 20 students.
- Jan 12 – May 12 **Teaching Assistant**, Public Health Studies, Johns Hopkins University
Course Title: Clinical and Public Health Behavior Change (AS.280.360)
- Researched, developed original content and delivered three class lectures: Theories of Behavior Change I; Theories of Behavior Change II (received highest student rating); Alcohol Misuse & Interventions.
 - Delivered class lecture on Culture & Health
 - Aided in course organization, student one-on-on meetings and grading for this undergraduate class of 100 students
- Sep 06 – Dec 06 **Teaching Assistant**, Department of Health Promotion, Dalhousie University
Course Title: Human Sexuality (HPRO 4412)
- Answered student questions and graded exams and essays for a class of 130 students
- Jan 06 – May 06 **Marker**, Department of Health Promotion, Dalhousie University
Course Title: Program Planning (HPRO 2216)
- Graded tests and essays for a class of 56 students

Research

- Aug 10 – Oct 14 **Research Assistant**, Center on Alcohol Marketing and Youth, Johns Hopkins Bloomberg School of Public Health
Research Projects:
- Content analysis of newspaper coverage of alcohol tax policy changes in MD, MA, IL: tool development and analysis.
 - Content analysis of all alcohol advertisements in all US National magazines between 2008 and 2010: protocol development, data analysis and write-up.

- Investigation of alcohol brand preference in injured patients presenting in an urban ER population: primary data collection, data analysis and write-up.

Research to Practice

Dec 06 – Aug 10 **Social Marketing Coordinator / Policy Lead, Alcohol Strategy,**
Addiction Services: South Shore, South West & Annapolis Valley
District Health Authorities, NS, Canada

- Provincial lead on alcohol policy research, development and advocacy, as Chair of the Alcohol Policy Sub-Committee
- Development, implementation, dissemination and support of the Provincial Alcohol Strategy through community capacity building, presentations, knowledge translation
- Oversaw the planning, delivery and evaluation of communications, social marketing, health promotion and prevention initiatives throughout three health districts
- Responsible for the coordination of research, development, implementation and evaluation of promotional tools for social marketing campaign including a public service announcement and website (changingtheculture.ns.ca).

Jan 05 – Apr 07 **Health Promoter / Research Assistant: MD Health e-Coach,**
Capital District Health Authority and Dalhousie University,
Halifax, NS, Canada

- Conceptualized and created marketing materials for physician-targeted health promotion tool
- Implemented an online communication database to ensure timely and appropriate communication with stakeholders
- Developed, created content and presented reports to physicians and project leaders

Other Experience

Dec 04 – Mar 06 **Volunteer Crisis Intervention Counselor,** Nova Scotia Helpline /
Kids Help Phone / Feed Nova Scotia, Halifax, NS, Canada

- De-escalated and supported situations including suicide, abuse, addictions, food security

June 02 – Nov 02 **Department Head,** Civic Corporation, Queenstown, New Zealand

- Headed the parking department with 4 staff members reporting to me
- Dealt directly with the public on issues of policy compliance for the Queenstown District Council

Feb 01 – Dec 01 **Computer Technician,** Grey & Associates, Montreal, QC, Canada

- Troubleshoot computer irregularities (virus, internet connectivity) for a staff of 25

- Oct 99 – Aug 01 **Corporate Internet Technical Support Representative**, Primus Telecommunications Canada, Montreal, QC, Canada
- Assisted corporate customers with Internet connectivity problems
 - Trained new corporate technical support representatives
 - Created two corporate technical support training manuals

PROFESSIONAL ACTIVITIES

Society Membership and Leadership

- Sept 11 – *present* Student Member, American Public Health Association
 Oct 09 – Oct 10 Board of Directors, Public Health Association of Nova Scotia
 Sept 06 – May 07 Vice-President - Athletics, MBA Society
 Sept 98 – Jan 00 Member, Garnet Key Society

Participation on Advisory Panels

- Aug 12 – May 13 Member, Health Promotion Advisory Committee at Dalhousie University
 Sept 11 – Oct 11 Member, Scientific Advisory Panel for the Nova Scotia Mental Health and Addictions Strategy

Professional Development

- March 13 Engaging Students in Active Learning: The Flipped Classroom and Other Strategies, Baltimore, MD
 July 09 Fetal Alcohol Spectrum Disorder Workshop, Halifax, NS
 October 08 Media Training 2-day workshop, Antigonish, NS
 September 08 First Annual World Social Marketing Conference, Brighton Beach, UK
 July 08 Motivational Interviewing 2-day training, Halifax, NS
 April 08 College Alc: alcohol education program for university students (web)
 March 08 Emerging issues in Fetal Alcohol Spectrum Disorder, Halifax, NS
 November 07 National Door Staff Standards Forum, Montreal, QC
 June 07 Media training 2-day workshop, Antigonish, NS
 May 07 Promoting best practices in social marketing (web)
 March 07 Youth crime and substance use: Federal Justice Department, Halifax, NS
 March 07 Alcohol: No Ordinary Commodity Forum, Toronto, ON

EDITORIAL ACTIVITIES

Peer Review Activities

- Nov 13 - *present* Qualitative Health Research

Aug 09 – Oct 09 **Peer Reviewer**, Canadian Partnership against Cancer, Toronto, ON
Granting of \$5M in organizational funding for the pan-Canadian Coalitions Linking Action and Science for Prevention (CLASP) initiative.

HONORS AND AWARDS

Aug 2010 – *present* **Tuition Support Scholarship**, Johns Hopkins Bloomberg School of Public Health: 75% tuition support for 5 years of study.

October 2014 **Doctoral Distinguished Research Award**: awards made on a competitive basis considering the relevance of the student's research to the mission, innovation, and appropriateness of design and methods to the Department of Health, Behavior and Society at the Johns Hopkins Bloomberg School of Public Health (\$2000).

October 2013 **Doctoral Distinguished Research Award**: Department of Health, Behavior and Society at the Johns Hopkins Bloomberg School of Public Health (\$2000).

October 2012 **The Gordis Teaching Fellowship**: awards advanced graduate students in the Bloomberg School of Public Health for developing original, innovative courses incorporating new trends and topics in public health to teach a seminar size class (18 students) in the Public Health Studies Program, Johns Hopkins University.

August 2010 **Institute of Public Administration of Canada Promising New Professional Award**: one national award is presented each year to a promising new public service professional recognized as an emerging leader within the public sector. This person represents the ideals, values and abilities of sound public administration.

May 2010 **Community Health Leadership Award**: recognizes individuals or groups who have made a significant contribution to the well-being of the public at the community level within the South Shore District Health Authority in Nova Scotia.

RESEARCH GRANT PARTICIPATION

Canadian Institutes of Health Research Knowledge Translation Operating Grant (April 2011). Reducing Alcohol-Related Problems by Implementing Evidence-based Tools that Translate Research Knowledge into Prevention Practice. Giesbrecht, N. (Principal Investigator), Asbridge, M., **Cukier, S.** (co-investigator / trainee), Mann, R., Stockwell, T. Amount: \$99,897/yr for two years \$199,794.

PUBLICATIONS

Peer-Reviewed Journal Articles

Giesbrecht, N., Wettlaufer, A., **Cukier, S.**, Geddie, G., Goncalves, A-H., & Reisdorfer, E. (in press). Do alcohol pricing and availability policies have differential impacts on sub-populations? A commentary. *International Journal of Alcohol and Drug Research*.

Smith, K.C., **Cukier, S.**, Jernigan, D.H. (2014). Defining strategies for promoting product through ‘drink responsibly’ messages in magazine ads for beer, spirits and alcopops. *Drug and Alcohol Dependence*, 142(1), 168-173.

Smith, K.C., **Cukier, S.**, Jernigan, D.H. (2014). Regulating alcohol advertising: content analysis of the adequacy of federal and self-regulation of magazine ads, 2008-2010. *American Journal of Public Health*, 104(10), 1901-1911.

Jernigan, D.H., **Cukier, S.**, Ross, C.S., Ahmed, S-R., Stolbach, A. (2013). Alcohol brand use and injury in the emergency department: a pilot study. *Substance Use and Misuse*, 49(1-2), 59-65.

Wettlaufer, A., **Cukier, S.**, Giesbrecht, N. & Greenfield, T. (2012). The marketing of responsible drinking: competing voices and interests. *Drug and Alcohol Review*, 31, 231-239.

Giesbrecht, N., **Cukier, S.**, & Steeves, D. (2010). Collateral damage from alcohol: implications from ‘second-hand drinking’ for populations and health priorities. *Addiction*, 105(8), 1323–1325.

Manuscripts under review

Cukier, S., Eck, R., Ross, C.S., Borzekowski, D.G. & Jernigan, D.H. (under review). Content analysis of alcohol portrayals on popular TV shows among youth, 2002-2012: a pilot study.

Wettlaufer, A., **Cukier, S.**, & Giesbrecht, N. (under review). Comparing alcohol marketing and alcohol warning message policies across Canada.

Giesbrecht, N., Wettlaufer, A., Simpson, S., April, N., Asbridge, M., **Cukier, S.** ... Vallance, K. (under review). Strategies to reduce alcohol-related harms and costs in Canada: A comparison of provincial policies.

Giesbrecht, N., Wettlaufer, A., Stockwell, T., Thomas, G., Thompson, K., ... **Cukier, S.** ... Vallance, K. (under review). Pricing of alcohol to reduce alcohol-related harms and costs in Canada: A comparison of provincial policies and harm-reduction opportunities.

Manuscripts in Preparation

Cukier, S., Wettlaufer, A., Jernigan, D.H. Revisiting alcohol on primetime: Content analysis of TV programs popular among youth, 2002 to 2012.

Cukier, S., Wettlaufer, A., Jernigan, D.H. Normative messaging in alcohol use constructs on TV: content analysis of TV programs popular among youth, 2002-2012.

Book Chapters

Ross, N., Morrison, J., **Cukier, S.,** & Smith, T. (2015). Consuming carcinogens: women and alcohol. In D.N. Scott (Ed.), *Our chemical selves. Gender, toxics and environmental health* (pp. 188-227). Vancouver, BC: UBC Press.

Government & Other Reports

Giesbrecht, N., Wettlaufer, A., April, N., Asbridge, M., **Cukier, S.,** Mann, R., McAllister, J., Murie, A., Plamondon, L., Stockwell, T., Thomas, G., Thompson, K., & Vallance, K. (2013). *Strategies to Reduce Alcohol-Related Harms and Costs in Canada: A Comparison of Provincial Policies*. Toronto: Centre for Addiction and Mental Health.

Brown, A., **Cukier, S.,** Findley, E., Finnigan, K., Helwig, P., Hudson, A., Leader, T., MacLeod, H., MacNeil, M., Melanson, S., Miles, B., Payette, T. (2007). *Changing the culture of alcohol use in Nova Scotia: an alcohol strategy to prevent and reduce the burden of alcohol-related harm in Nova Scotia*. Halifax, NS: Crown Copyright, Province of Nova Scotia.

Articles and Editorials not Peer Reviewed

Cukier, S. (2007, October). Setting the record straight: red wine and heart health. *The Seniors' Advocate*, 24(8), 12.

PRESENTATIONS

Giesbrecht, N., Wettlaufer, A., **Cukier, S.,** Geddie, G., & Goncalves, A-H. (September 2014). Do alcohol policies have differential impacts on sub-populations? Paper presented at "Alcohol Policy Research: Putting together a global evidence base" a thematic meeting of the Kettil Bruun Society, Fitzroy, Melbourne, Australia.

Giesbrecht, N., Wettlaufer, A., Simpson, S., April, N., Asbridge, M., **Cukier, S.,** Mann, R., McAllister, J., Murie, A., Pauley, C., Plamondon, L., Stockwell, T., Thomas, G., Thompson, K., Vallance, K. (June 2014). Strategies to reduce alcohol-related harms and costs in Canada: a comparison of provincial policies. Paper presented at the 40th Annual Alcohol Epidemiology Symposium of the Kettil Bruun Society for Social and Epidemiological Research on Alcohol, Torino, Italy.

Giesbrecht, N., Wettlaufer, A., Simpson, S., April, N., Asbridge, M., **Cukier, S.**, Mann, R., McAllister, J., Murie, A., Pauley, C., Plamondon, L., Stockwell, T., Thomas, G., Thompson, K., Vallance, K. (May 2014). Strategies to reduce alcohol-related harms and costs in Canada: a comparison of provincial policies. Oral Presentation at the Canadian Public Health Association Conference, Toronto, ON.

Cukier, S., Eck, R., Ross, C., Borzekowski, D. & Jernigan, D.H. (Nov 2013). D'Oh! Homer never has a hangover and Marge always takes him back: Content analysis of alcohol messages on popular television shows. Poster Presentation at the American Public Health Association Conference, Boston, MA.

Reynolds-Ramirez, R., Smith, K.C., **Cukier, S.**, & Jernigan, D.H. (Nov 2013). Comparative case study research on events leading to alcohol tax changes in three states. Oral Presentation at the American Public Health Association Conference, Boston, MA.

Wettlaufer, A. & **Cukier, S.** (June 2013). @liquorboard: Are they tweeting responsibly? Oral Presentation at the Canadian Public Health Association Conference, Ottawa, ON.

Cukier, S., Eck, R., Ross, C., Borzekowski, D., & Jernigan, D.H. (April 2013). Pilot Study: D'Oh! Homer never has a hangover and Marge always takes him back. Oral Presentation at the Alcohol Policy 16 Conference, Washington, DC.

Cukier, S., Reynolds-Ramirez, R., Smith, K.C., & Jernigan, D.H. (Oct 2012). How the news media frames the debate over alcohol taxes. Poster Presentation at the American Public Health Association Conference, San Francisco, CA.

Wettlaufer, A., **Cukier, S.**, Giesbrecht, N. & Greenfield, T. (Oct 2012). Low-risk drinking: perceptions and practices. Oral Presentation at the American Public Health Association Conference, San Francisco, CA.

Wettlaufer, A., **Cukier, S.**, Giesbrecht, N. & Greenfield, T. (June 2012). The marketing of responsible drinking: competing voices and interests. Oral Presentation at the Canadian Public Health Association Conference, Edmonton, AB.

Giesbrecht, N., **Cukier, S.** & Wettlaufer, A. (June 2012). Harm to others from alcohol: challenges and opportunities to assessing the second-hand effects of drinking on society. Oral Presentation at the Canadian Public Health Association Conference, Edmonton, AB.

Cukier, S. & Giesbrecht, N. (Oct 2011). Harm to others from alcohol: A review & conceptual analysis of the second-hand effects of alcohol. Oral Presentation at the American Public Health Association Conference, Washington, DC.

Cukier, S., Steeves, D. & Heatley, J. (Oct 2012). Fighting for share of throat: the alcohol industry wants our youth! Oral Presentation at the American Public Health Association Conference, Washington, DC.

Cukier, S. (Oct 2012). A Canadian example of advocacy towards alcohol policy change. Poster Presentation at the American Public Health Association Conference, Washington, DC.

Smith, K.C., **Cukier, S.** & Jernigan, D.H. (Oct 2011). Magazine alcohol advertising 2008-2010: Results from a content analysis. Oral Presentation at the American Public Health Association Conference, Washington, DC.

Jernigan, D.H., **Cukier, S.**, Ross, C., Syed-Rafay, A. & Stolbach, A. (Oct 2011). Alcohol brand consumption and injury in an urban emergency room population. Oral Presentation at the American Public Health Association Conference, Washington, DC.

Giesbrecht, N., Wettlaufer, A., **Cukier, S.**, Parker, R.N., & Steeves, D. (April 2011). Privatization of alcohol retailing: Issues, evidence and implications; an examination of three Canadian provinces. Paper presented at the 37th Annual Alcohol Epidemiology Symposium of the Kettil Bruun Society for Social and Epidemiological Research on Alcohol, Melbourne, Australia.

Cukier, S. & Giesbrecht, N. (Dec 2010). Measuring the second-hand effects of drinking. Oral Presentation at the Alcohol Policy 15 Conference, Washington, DC.

Cukier, S. (Dec 2010). A Canadian example of advocacy towards alcohol policy change. Poster Presentation at the Alcohol Policy 15 Conference, Washington, DC.

Cukier, S. (Dec 2010). Nova Scotia's alcohol strategy: A first to connect research & practice. Poster Presentation at the Alcohol Policy 15 Conference, Washington, DC.

Cukier, S., Giesbrecht, N. & Steeves, D. (June 2010). Second-hand effects of drinking. Oral Presentation at the Canadian Public Health Association Conference, Toronto, ON.

Cukier, S. & Steeves, D. (June 2010). Is there a place for the alcohol industry at health tables? Oral Presentation at the Canadian Public Health Association Conference, Toronto, ON.

Giesbrecht, N., **Cukier, S.**, Greenfield, T.K., & Wettlaufer, A. (June 2010). 'Please drink responsibly' - A comparison of social drinking indicators and low-risk drinking guidelines. Paper presented at the 36th Annual Alcohol Epidemiology Symposium of the Kettil Bruun Society for Social and Epidemiological Research on Alcohol, Lausanne, Switzerland.

Cukier, S. (Nov 2009). Alcohol policy: connecting research and practice. Oral Presentation at the Canadian Centre on Substance Abuse National Conference, Halifax, NS.

Cukier, S. & Steeves, D. (Nov 2009). A Nova Scotia example of advocacy towards policy change. Oral Presentation at the Canadian Centre on Substance Abuse National Conference, Halifax, NS.

Cukier, S. & Steeves, D. (Nov 2009). The three biggest mistakes social marketers make. Poster Presentation at the Canadian Centre on Substance Abuse National Conference, Halifax, NS.

Cukier, S. & Steeves, D. (Nov 2009). Working with industry: Just do it? Poster Presentation at the Canadian Centre on Substance Abuse National Conference, Halifax, NS.

Cukier, S. (Nov 2009). Alcohol policy: connecting research and practice. Oral Presentation at the Ontario Public Health Association Conference, Toronto, ON

Cukier, S. (June 2009). Alcohol policy: connecting research and practice. Oral Presentation at the Canadian Public Health Association Conference, Winnipeg, MB.

Cukier, S. (Sept 2007). The development of the Nova Scotia Alcohol Strategy. Oral Presentation at the Canadian Public Health Association Conference, Ottawa, ON.

Cukier, S. (May 2006). Exploring how individuals in small corporate environments experience health and wellness in their workplace. Oral Presentation at the Crossroads Conference, Halifax, NS.

Invited Seminars, Panels and Webinars

Invited speaker: D'Oh! Homer never has a hangover and Marge always takes him back: Content analysis of alcohol messages on popular television shows. Research Half Day, Dalhousie School of Health Sciences, Halifax, NS. January 2014.

Invited speaker: Women and the culture of alcohol consumption. Links to marketing, environment and health. IWK Health Centre, Halifax, NS. October 2013.

Invited panelist: Lifestyle approaches to prevention of disease. Department of Health, Behavior and Society Seminar, Johns Hopkins Bloomberg School of Public Health, March 2012.

Subject matter expert: The effects of alcohol advertising on youth. Alcohol Action Nova Scotia Webinar, January 2012.

Subject matter expert: Big alcohol is big business. Alcohol Policy Network Webinar. January 2011.

Subject matter expert: Understanding Social Marketing. Heart and Stroke Foundation of Nova Scotia Provincial Meeting, March 2010.

Subject matter expert: Understanding Social Marketing. Atlantic Collaborative on Injury Prevention Webinar Learning Series, March 2010.

Invited speaker: “When” video: Starting the alcohol policy discussions. Second Annual Alcohol Policy and Research Forum, Halifax, NS, May 2010.

Invited speaker: Alcohol advertising, regulations and opportunities for change in Nova Scotia. Child and Youth Drinking Knowledge Exchange, Halifax, NS, May 2010.

Invited speaker: Big alcohol close to home: The research, the plan, the action. Alcohol in a hypersexualized culture, Halifax, NS, March 2010.

Subject matter expert & lead facilitator: Alcohol and cancer. Cancer Care Nova Scotia Annual Forum, Halifax, NS, April 2009.

Invited speaker: Using public policy and social marketing to reduce alcohol-related harm. First Annual Alcohol Policy and Research Forum, Halifax, NS, November 2008.

Invited speaker: Changing the culture of alcohol use in Nova Scotia. Alcohol: No Ordinary Commodity Forum, Ottawa, ON, March 2008.

Keynote Address: Social marketing for hand hygiene. Community Hospital and Infection Control Association Nova Scotia Conference, Halifax, NS, November 2007.

Invited speaker: The experience of health and wellness in corporate environments: preliminary results. Health promotion seminar, Dalhousie University, Halifax, NS, October 2006.

Invited speaker: The MD Health e-Coach. Health informatics seminar. Dalhousie University, Halifax, NS, November 2005.

TECHNICAL SKILLS

Proficient in use of Office Suite, basic web design software, computer repair, STATA, ISIS (school-wide registration and grading system), CoursePlus (online course system), Blackboard (online course system).

LANGUAGES

Fluent in English and French (verbal and written).